

Community Planning & Development

130 East Sunset Way | P.O. Box 1307 Issaquah, WA 98027 425-837-3100 issaquahwa.gov

STAFF REPORT HYLA CROSSING STORMWATER OUTFALL DISCHARGE Shoreline Substantial Development Permit – SHO22-00007

APPLICANT: Kristi Tripple, Vice President, Community Development, Rowley Properties

STAFF CONTACT: Doug Yormick, Environmental Planner, 425-837-3083, dougy@issaguahwa.gov

REQUEST: The project proposes a new stormwater management facility and associated infrastructure, including stormwater pump station, pipeline, and nearshore outfall adjacent to Lake Sammamish. This facility is being built to handle existing stormwater and will not be associated with new stormwater impacts.

> The proposed stormwater pipe alignment traverses an associated wetland to Lake Sammamish, a shoreline of the state, where an outfall is proposed to be located 10-feet from the ordinary high-water mark of Lake Sammamish.

Upon completion, ownership of the facility will be conveyed to the City of Issaguah for longterm management and maintenance after construction.

PUBLIC NOTIFICATION:

September 15, 2021: Notice of Application mailed to property owners within 300-feet.

October 6, 2021: Notice of Neighborhood Environmental Meeting mailed to property owners within 300-feet, and posted on the City's website and **Active Project Map**

October 19, 2021: Shoreline Public Meeting, Neighborhood Environmental Meeting

Background: Hyla Crossing is a 60-acre collection of developed parcels located in the City of Issaguah (City). The City and Rowley Development entered into a Development Agreement (DA) for the Hyla Crossing properties in 2011 including a Hyla Crossing Master Drainage Plan (MDP).

> The Hyla Crossing Pump Stormwater Discharge project proposes a new stormwater management facility and associated infrastructure, including stormwater pump station, pipeline, and nearshore outfall adjacent to Lake Sammamish (the "Project"). The DA and MDP outlined several items related to stormwater management. In lieu of detention, the Project will split stormwater flows between Tibbetts Creek and Lake Sammamish (the "Lake"). The City of Issaguah Drainage Manual and Ecology's Western Washington Storm Water Manual have designated the Lake as a flow control exempt receiving water body. Meaning, the Lake has sufficient capacity to accept runoff from current and future development within its drainage basin. The designation allows for direct discharge of stormwater to the Lake. However, water quality standards are applicable to Lake discharge.

> The DA considered traditional detention onsite with stormwater discharge to Tibbetts Creek. To achieve a similar hydraulic performance of the pump station, the detention vault

would contain 558,000-cubic feet of storage. The excavation of the vault would be 20-feet to allow gravity flow from upstream storm drainage. The site contains high ground water table which would create uplift pressure on the vault structure and will be unable to resist uplift pressure on the vault floor from ground water forces. Peat soils were also a factor not choosing traditional detention on site.

The basic Project elements were outlined in a threshold SEPA Determination SEP11-00005 (Exhibit 11), dated March 14, 2012. The preferred alternative in 2012 was a submerged outfall on the lakebed of Lake.

In subsequent years additional analysis was collected to better map the Lake's bathymetry where the outfall was proposed. This data disclosed the lakebed drop-off was more gradual than anticipated. It was determined the submerged outfall would need to be placed 200-feet offshore from Ordinary High-Water Mark ("OHWM").

On February 27, 2019, a Joint Agency Pre-Application meeting was held to discuss outfall options. Included in the meeting were representatives from the City of Issaquah, US Army Corps of Engineers (USACOE), Washington Department of Ecology (Ecology), Washington Department of Fish and Wildlife (WDFW), and the Muckleshoot Indian Tribe (together, the "Agencies"). Several of the Agencies expressed concern about the invasive nature and high risk of causing impacts to Lake resources with a submerged outfall. The result of the meeting discarded the submerged alternative in favor of a near-shore outfall 10-feet from OHWM.

Analysis SMP policies and regulations:

- 1. The proposed Project falls within the jurisdiction of the Issaquah Shoreline Master Program (SMP) because it is located within 200 feet of the OHWM of the Lake. Developments within this area require a permit to review for consistency with the SMP.
- 2. The Project is a Stormwater Utility, which is a permitted use in the Lake Sammamish Urban Conservancy Environmental Designation per SMP Table 1 Permitted Uses (pg. 39). See excerpt below.

		Proposed Shoreline Environment Designations					
Shoreline Use	Shoreline Commercial/ Mixed Use	High Intensity Transportation	Lake Sammamish Shoreline Residential	Issaquah Creek Shoreline Residential	Lake Sammamish Urban Conservancy	Issaquah Creek Urban Conservancy	Natural
Utility Use and Development	Р	Р	Р	Р	P	Р	Р

- 3. The Project does not meet the threshold for an exemption from a shoreline substantial development permit established in WAC 173-27-040. Therefore, a Shoreline Substantial Development Permit (SSDP) is required.
- 4. A SSDP is authorized to be reviewed under the Administrative Review Process Level 2 review in accordance with Section 18.04.360. F. of the Issaquah Municipal Code (IMC). A SSDP permit was applied for on April 14, 2022 (Exhibit 1).
- 5. Public notification was provided to residences with 300-feet of the proposed development per IMC 18.04.180 (Exhibit 2).
- 6. Per IMC 18.10.410.F a neighborhood environmental meeting is required for all Level 2 permits, which require a critical area study. Notification of the meeting was provided to all residences within 300-feet of the proposed development and held October 19, 2021 (Exhibit 3).

7. The following are applicable SMP regulations that apply to the application for a Shoreline Substantial Development Permit along with the City's findings for each:

Shoreline Substantial Development Analysis

5.1. Shoreline Use

5.1.2 Regulations

- 1. All uses in the shoreline shall comply with the City's land use code IMC Title 18 and this program.
- 2. The shoreline use table (Table 1 in Chapter 4) defines those uses that are permitted outright and those uses that are only permitted as a conditional use. All unclassified uses, such as agriculture, forestry, mining, and non-hatchery-related aquaculture, shall be considered conditional uses and shall be governed by the policies in WAC 173-26.

<u>Staff Findings:</u> Stormwater Utility is a permitted use in all Shoreline Environmental Designations per Table 1 (pg. 39) of the SMP.

5.2 Archeological, Historical and Cultural

5.2.2 Regulations

- 1. An application for a shoreline permit or request for a shoreline exemption permit for a development proposal located on or adjacent to a historic or cultural resource shall be reviewed pursuant to the requirements of Certificate of Appropriateness and Protection and Preservation of Landmarks, Landmark Sites and Districts found within Title 18 and this Program.
- 2. An application for a shoreline permit or request for a shoreline exemption permit for a development proposal located on or adjacent to an area documented to contain archeological resources shall be reviewed pursuant to this Program and shall require a site inspection or evaluation by a professional archeologist in coordination with affected Indian tribes.
- 3. Whenever historic, cultural, or archaeological sites or artifacts are inadvertently discovered during shoreline development, work on that portion of the development site shall be stopped immediately, the site secured, and the discovery reported as soon as possible to the Planning Director/Manager. Upon notification of such find, the property owner shall notify the Washington State Department of Archaeology and Historic Preservation, and the Planning Director/Manager shall notify the historic preservation officer and shall require a site investigation to determine the significance of the discovery. Based upon the findings of the site investigation and consultation with the historic preservation officer and the Washington State Department of Archaeology and Historic Preservation, the Planning Director/Manager may require that an immediate site assessment be conducted or may allow stopped work to resume.

<u>Staff Findings:</u> No documented historic or cultural resource have been identified near the site. The SEPA determination (SEP11-00005) and supporting documents were provided to the State's Department of Archeology and Historic Preservation (DAHP). A condition is placed on this permit for inadvertent discoveries (Condition 1).

5.7 Shoreline Vegetation Conservation

5.7.2 Regulations

- 2. Vegetation clearing should be limited to the minimum necessary to accommodate approved shoreline uses and developments and shall comply with the standards established in Tables 1 and 2 in Chapter 4 as well as the use-specific regulations contained in this Program.
- Vegetation conservation standards shall not limit or restrict the removal of hazard trees, provided the hazard tree removal is consistent with IMC Title 18, specifically Landscaping and Tree Preservation.

<u>Staff Finding</u>: The site contains an associated wetland (Wetland E). The wetland is dominated with invasive Phalaris arundinacea (reed canary grass). The entirety of Wetland E falls within shoreline jurisdiction.

The outfall pipe alignment will utilize a swale along NW Sammamish Road right-of-way for a portion of the path before turning north towards Lake Sammamish. Much of the pipeline in this segment will occur within the road prism at the upper limits of the roadside swale. Impacts to Wetland E will be minimized and restricted to temporary impacts to accommodate construction.

The alignment between NW Sammamish Road and the nearshore outfall will use an open cut construction through Wetland E. The pipe will be laid approximately 3-feet below the soil surface. The specific pipe alignment will avoid a mature stand of Salix Lucida (Pacific willow). The City of Issaquah Parks Department tree planting within the wetland will be avoided. It is acknowledged some Parks restoration plantings may be impacted during construction. The Rowley's have worked with the City's Parks Department to rectify any disturbance to restoration plantings on the property. Compliance with that agreement is included in Condition 2.

The nearshore outfall will be located 10' upland from OHWM of Lake Sammamish. The outfall will consist of a bubble-up system. Approximately 315 square feet of nearshore vegetation will be impacted with the outfall.

All permanent and temporary impacts to vegetation will be compensated for, either through the purchase of mitigation bank credits or on-site restoration. Any onsite restoration will meet the standard requirements of the City of Issaguah (Condition 2).

5.8 Flood Hazard Reduction

5.8.2 Regulations

- 1. All development in the shoreline shall comply with the City's Areas of Special Flood Hazard (IMC 16.36), Stormwater Management Policy (IMC 13.28), Critical Area Regulations incorporated in section 1.5.5, and the National Flood Insurance Program.
- Development in FEMA designated floodplains and floodways, channel migration areas, and/or riparian buffers shall be required to demonstrate no adverse impact on habitat for fish species listed as threatened or endangered under the federal Endangered Species Act.

<u>Staff Findings</u>: The proposed outfall is within the regulated 100-year flood plain for Lake Sammamish. Evaluation and compliance with the above regulations will be reviewed in a subsequent flood hazard permit (Condition 3).

During the October 15, 2021, Neighborhood Meeting, nearby residents wanted evaluation of localized flooding impacts from the outfall during peak flows. An analysis was provided to the City (Exhibit 9). The analysis concluded no localized flooding impacts are anticipated for the residents along the Sammamish Cove adjacent to the outfall location. The Sammamish Cove is an area in Lake Sammamish between the outlets of Tibbetts and Schneider creek, where the outfall is located.

5.16 Fill and Excavation

5.16.2 Regulations

- All filling and excavation activities in the shoreline shall comply with the provisions of this Program, IMC Title 16, Buildings and Construction in addition to the Department of Ecology 2014 Stormwater Management Manual for Western Washington, City of Issaquah 2017 Stormwater Design Manual Addendum, as amended.
- 3. Development that involves fill or excavation within the shoreline jurisdiction shall obtain a Shoreline Substantial Development permit or Shoreline Conditional Use Permit (as specified in Table 1 Chapter 4), unless exempt by RCW 90.58.030.

- 4. Fill shall be permitted only where it is demonstrated that the proposed action will not:
 - a. Result in significant ecological damage to water quality, fish, and/or wildlife habitat.
- 5. Before the City can permit any filling and/or excavation activities, the applicant must demonstrate all the following:
 - a. Alternatives to filling and excavation are infeasible;
 - b. Normal surface water movement and drainage patterns shall be maintained to the maximum extent feasible:
 - c. Fill materials shall not adversely affect water quality or aquatic life;
 - d. Fill shall allow surface water penetration into the ground where such conditions existed prior to the fill;
 - e. The filling and/or excavation shall be timed to minimize damage to shoreline ecological functions and processes and aquatic life; and
 - f. Fill within the one hundred-year (100-year) floodplain shall not reduce the floodplain water storage capacity, inhibit channel migration, or in any way increase flood hazard or endanger public safety.
- 7. Fill or excavation shall not be located where structural shore stabilization will be required to maintain materials placed or removed. Disturbed areas shall be immediately stabilized and revegetated, as applicable.
- 8. Fill activities shall be designed to blend physically and visually with existing topography whenever possible.
- 9. A temporary erosion and sediment control (TESC) plan shall be provided for all proposed fill and excavation activities.
- 10. Unavoidable impacts of filling and/or excavation shall be mitigated as required by this Program and WAC 173-26-201(2).

<u>Staff Findings:</u> A Shoreline Substantial Development Permit was applied for to allow the construction of stormwater pipe and nearshore outfall. Evaluation was provided in the submitted Critical Areas Study (Exhibit 7). A TESC plan was provided for evaluation. TESC plan will be required to be provided with subsequent construction permits (Condition 4).

A discussion of alternatives evaluated for this Project and their feasibility are outlined in the Critical Areas Report (Exhibit 7).

The project will have no effect on natural drainage patterns found in Wetland E. Periodic clay check dams will be installed along the pipeline to prevent the new pipeline from acting as a conduit which might allow water to move too quickly through the system.

Fill materials used will include the structural components of the outfall, as well as the rock pad, which will extend from the outfall to OHWM. All materials will be sourced from clean fill materials suitable for placement within the wetland and Lake Sammamish. Impacts to aquatic life are not anticipated. Construction best management practices (BMP) will be used for site preparation, construction site isolation, dewatering measures, and erosion sediment control measures to ensure temporary impacts to aquatic life will not occur during construction activities (Condition 4).

Construction activities will occur within the dry season. Construction is anticipated to occur during the Summer of 2023. Construction activities outside of the dry season will be required to submit a wet-season TESC plan for review by the City (Condition 5).

The outfall is within the 100-year floodplain for Lake Sammamish. A flood hazard permit is required for review. Additionally, the project proponents have provided a Lake Level Analysis

demonstrating no increased risk of localized flooding because of the stormwater outfall (Exhibit 9).

5.18 Utility

5.18.2 Regulations

- New utility uses or developments shall not be allowed in the shoreline unless they are required
 for an authorized shoreline use, or they have a water-dependent component such as a water
 intake or outfall, or water crossings that are unavoidable. Water-dependent components shall not
 require buffer setbacks.
- 3. Utility developments shall be located and designed so as to avoid or minimize the use of structural shoreline stabilization.
- 6. When feasible, utility lines shall use existing rights-of-way, corridors and/or bridge crossings and shall avoid duplication and construction of new or parallel corridors in all shoreline areas.
- 7. Conveyance utilities shall be placed underground or alongside or under bridges except where the presence of bedrock or other obstructions make such placement infeasible or where such placement would cause substantial environmental impact.
- 10. Clearing of vegetation for the installation or maintenance of utilities shall be minimized and disturbed areas shall be restored following project completion consistent with the requirements of City stormwater management regulations and all other provisions of this Program.
 - <u>Staff Findings</u>: Per Table 1 Use and Standards stormwater utilities, including outfall is an authorized use in shoreline jurisdiction. No shoreline stabilization is required for the Project. The proposed stormwater pipe will utilize the ROW for a portion of the alignment before turning towards the Lake. All sections of the pipe will be placed underground. The path selected minimizes the clearing of vegetation as discussed in section 5.7.2.

8.2.2 Substantial Development

- 1. Substantial development as defined by RCW 90.58.030 shall not be undertaken without first obtaining a substantial development permit from the Planning Director/Manager, unless the use or development is specifically identified as exempt from a substantial development permit.
 - <u>Staff Findings:</u> The Project does not meet the threshold for an exemption from a shoreline substantial development permit established in WAC 173-27-040. Therefore, a Shoreline Substantial Development Permit (SSDP) is required.
- The Planning Director/Manager may grant a substantial development permit only when the development proposed is consistent with the policies and procedures of RCW.90.58; the provisions of this WAC 173-27; and this Program.
 - <u>Staff Findings:</u> A complete shoreline substantial development permit was submitted to the City for review. An analysis of the policies and procedures has occurred per RCW 90.58, WAC 173-27, and the SMP. The application has met the policies and procedures for a shoreline substantial development permit.
- 3. The Planning Director/Manager is authorized to grant a shoreline substantial development permit when all of the criteria enumerated in WAC 173-27-150 are met.
 - Staff Findings: WAC 173-27-150 provides as follows:
 - (1) A substantial development permit shall be granted only when the development proposed is consistent with:
 - (a) The policies and procedures of the act;
 - (b) The provisions of this regulation; and

- (c) The applicable master program adopted or approved for the area. Provided, that where no master program has been approved for an area, the development shall be reviewed for consistency with the provisions of chapter 173-26 WAC, and to the extent feasible, any draft or approved master program which can be reasonably ascertained as representing the policy of the local government.
- (2) Local government may attach conditions to the approval of permits as necessary to assure consistency of the project with the act and the local master program.

An analysis of the policies and procedures found in the Shoreline Management Act (Act) has been done and determined the proposed use does not conflict with the Act. Further the City of Issaquah has an adopted SMP. The Project has been determined to be consistent with the SMP as shown in staff findings and analysis herein for the SMP sections 5.1, 5.2, 5.7, 5.8, 5.16, 5.18, 8.2.2, and Appendix A (through SHO21-00010). The City has placed conditions of approval to assure consistency with the SMP and the Act.

4. The Planning Director/Manager may grant a substantial development permit only when the development is consistent with the timelines outlined in WAC 173-27- 090 and permit application requirements listed in WAC 173-27-180.

<u>Staff Findings:</u> A shoreline substantial development permit application was submitted to the City and determined complete per WAC 173-27-180 and Chapter 18.04 IMC. The development activities must follow the time requirements of permit per WAC 173-27-090 (Condition 9)

Appendix A to SMP - Chapter 18.10 Environmental Protection

IMC 18.10.610. Allowed wetland activities

- **B.** Activities Allowed in Wetland Buffers: In wetland buffers, regulated activities which have minimal adverse impacts within the buffers and no adverse impacts on wetlands may be allowed through the land use permit process, providing they are conducted using best management practices and restoration. These activities include:
- 2. Facilities having no feasible alternative on-site locations, where appropriate restoration is included, and which would not adversely affect the function or values of the buffer or wetland, may be allowed in wetland buffers. Stormwater facilities shall not encroach into wetland buffers by more than twenty-five (25) percent of the standard wetland buffer width, per IMC 18.10.640, or use more than twenty-five (25) percent of the total buffer area without a variance. Stormwater vaults located in wetland buffers shall have adequate soil cover to support native vegetation including small trees, shrubs and groundcover. Any wetland buffer area displaced by a stormwater management facility shall be compensated for by adding an equal wetland buffer area in accordance with wetland buffer averaging, IMC 18.10.650(D)(5), so that no net loss of wetland buffer area results from the construction of the facility. Stormwater facilities such as bioretention, rain gardens, or constructed wetlands planted with appropriate native vegetation and trees are allowed without buffer averaging requirements.

<u>Staff Findings:</u> The stormwater pipe and outfall are wholly located in an associated wetland. Since the project does not adhere to the outer 25% of the wetland buffer a variance is required. Per SMP 1.5, development applications that would be otherwise processed according to the Reasonable Use Variance provisions of IMC 18.10.430 shall require a Shoreline Variance according to the provisions of this Program and WAC 173-27. In addition to a Shoreline Substantial Development permit, the applicants have also provided a Shoreline Variance application, SHO21-00010.

IMC 18.10.620 Wetland Rating System

A. To promote consistent application of standards, wetlands within the City of Issaquah shall be classified according to their characteristics, function, and value, and/or their sensitivity to disturbance. Wetlands shall be rated and regulated according to the categories defined by the Washington State Wetland Rating System for Western Washington – 2014.

<u>Staff Findings</u>: A 2014 Wetland Rating Form was submitted with the Critical Areas Report. The findings of the report indicate Wetland E is a Category I wetland based on total score (Exhibit 7).

IMC 18.10.700 Avoiding Wetland Impacts

B. - With respect to Category I and II wetlands, an applicant must demonstrate through the variance provision, as established in IMC 18.10.430, that denial of the proposal would preclude all reasonable use of the subject property on the part of the applicant brought about by circumstances peculiar to the subject property.

<u>Staff Findings</u>: As discussed above the wetland is a Category I wetland and a Shoreline Variance is required according to the provisions of the City's SMP and Chapter 173-27 WAC. The Washington Department of Ecology (Ecology) will provide a decision on the Shoreline Variance. A detailed review of the Shoreline Variance criteria is provided in the SHO21-00007 Staff Report.

IMC 18.10.710 Minimizing Wetland Impacts -

A. After it has been determined by either the Hearing Examiner or the Director pursuant to IMC 18.10.700 (Avoiding Wetland Impacts) that losses of wetlands are necessary and unavoidable or that all reasonable use has been denied, the applicant shall take deliberate measures to minimize wetland impacts.

<u>Staff Findings:</u> The project has minimized impacts to the wetland as described below. The Project is utilizing the ROW for a portion of its route. The alignment towards the Lake takes the shortest route possible. Construction of the stormwater pipe and outfall will occur during the dry season. If wet-season work is required additional analysis will be provided to the City for review. In all instances the Project will implement BMP's and schedule construction activities to avoid interference with wildlife (Condition 5). Construction staging areas will be located along the ROW and no storage or stockpiling materials will occur in the wetland (Condition 6).

IMC 18.10.720 Mitigation for Wetland Impacts -

A. <u>Goal:</u> All approved impacts to regulated wetlands require compensatory mitigation so that the goal of no net loss of wetland function, value and acreage is achieved. Mitigation actions shall provide equivalent or greater wetland and buffer functions compared to wetland and buffer conditions existing prior to the proposed alteration.

<u>Staff Findings:</u> All impacts to wetlands will be mitigated in accordance with IMC 18.10.720.B. Category I Wetlands based on function score shall be mitigated at a 4:1 ratio.

Permanent impacts of the wetland and buffer have been provided as part of this application. 805 square feet of wetland and 244 square feet of wetland buffer impacts are shown. All temporary impacts will be restored onsite post-construction.

While wetland creation is preferred in IMC 18.10.720, the USACOE and Ecology require the use of mitigation banks over permittee responsible mitigation. Given the extensive wetlands already near the Project area, and the proximity of Keller Farm Mitigation Bank within the watershed, it was determined the use of mitigation bank as the preferred option to offset direct wetland impacts. The wetland credits must be purchased prior to issuance of construction permits to satisfy IMC 18.10.720.I where the credits are purchased in advance of authorized impacts (Condition 7).

Public Comment

Public notification was provided for this Project. All residents within 300' of the proposal were notified. Several public comments were received. Most comments discussed the discharge of stormwater directly to the Lake and its impacts on flooding. The public comments and responses from the applicant are included as Exhibit 6.

Additionally, the City held an Environmental Neighborhood Meeting on October 19, 2021. During the meeting residents brought up flooding concerns. Staff heard the comments and asked the applicant to evaluate the impacts of stormwater from the Hyla Crossing neighborhood to residents along the Lake. City Staff had the Lake Level Analysis peer reviewed by Parametrix (Exhibit 9 & 10). The Project will not result in an increase in the Lake levels

SEPA:

A Determination of Non-Significance (DNS) was issued by the City of Issaquah March 14, 2012. A 21-day comment period was provided. Additionally, a 14-day appeal period was provided expiring March 29, 2012. No appeals were filed with the City. A copy of the DNS can be found in Exhibit 11.

The original SEPA determination discussed an outfall below OHWM of Lake Sammamish. During preliminary pre-application meetings with Ecology, USACOE, and other stakeholders, it was determined the below OHWM was infeasible. Factors included a much longer pipeline to reach appropriate depths, impacts to fish habitat, among others. An upland outfall was deemed appropriate and the least impactful alternative.

However, an upland outfall was not evaluated under the original SEPA checklist and threshold determination. During shoreline permit review and a neighborhood environmental public meeting, issues were raised regarding localized flooding impacts the outfall may have within the Sammamish Cove property. The applicant provided a lake level analysis (Exhibit 9), which was subsequently peer-reviewed by Parametrix. The peer-review concurred with the lake level analysis findings. No localized impacts will result from the outfall (Exhibit 10).

An addendum dated February 13, 2023, analyzed this information and the SEPA Responsible Official determined no significant adverse environmental impacts will occur with this Project. A SEPA addendum has been uploaded to the SEPA Registrar on February 13, 2023, to reflect the new information provided.

Exhibit List

- 1. Shoreline Substantial Development permit application received April 15, 2022
- 2. Notice of Application and Affidavit of Mailing
- 3. Shoreline Substantial Development Plan-set received April 20, 2022
- 4. Notice of Neighborhood Meeting and Affidavit of Mailing
- 5. Neighborhood Environmental Meeting Notes dated October 19, 2021
- 6. Public Comments Received
- 7. Critical Area Report received May 26, 2021, revised April 22, 2022
- 8. Final Watershed Company Peer-review of Critical Area Report, dated July 27, 2022
- 9. KPFF Lake Level Analysis, dated June 8, 2022
- 10. Parametrix Peer-review of Lake Level Analysis, dated August 18, 2022
- 11. SEPA Determination of Non-significance, dated March 14, 2012
- 12. SEPA Addendum, dated February 13, 2023





CITY OF ISSAQUAH



Land Use Application #1124817 - Hyla Crossing Pumped Stormwater Discharge



CITY OF ISSAQUAH



Land Use Application #1124817 - Hyla Crossing Pumped Stormwater Discharge

Project Contact

Company Name: KPFF

Name: Email: Chris.Borzio@kpff.com

Address: 1601 Fifth Avenue Suite 1600 Phone #: 2069260418

Seattle WA 98101

Project Type Activity Type Scope of Work

Shoreline Development Any Project Type Shoreline Substantial Development

Project Name: Hyla Crossing Pumped Stormwater Discharge

The project proposes a new stormwater management facility and associated infrastructure,

Description of including stormwater pump station, pipeline, and nearshore outfall adjacent to Lake

Sammamish. This facility is being built to handle existing stormwater and will not be associated Work:

with new stormwater impacts. This facility will be passed on to the City of Issaquah for

long-term management and maintenance after construction.

Project Details

Project Information

Use - existing

The project proposes a new stormwater management facility and associated infrastructure, including stormwater pump station, pipeline, and nearshore outfall adjacent to Lake Sammamish. This facility is being built to handle existing stormwater and will not be associated with new stormwater impacts. This facility will be passed on to the City of Issaguah for long-term

management and maintenance after construction.

Quantity and Size Specifications

0 Maximum proposed building height

Additional Parcels:

2024069070, 2024069079, 356000140

DECLARATION OF SERVICE OF MAILING

	1, BRIAN D. MOSS state and declare as follows:
	That on the 15th day of September, 2021, I deposited in the mail of the United States a sealed envelope containing a public hearing notice, decision or recommendation with postage prepaid addressed to the adjacent property and/or parties of record in the below entitled application or petition:
	Notice of Application: 5HO21-00010 Hyla Crossing Stormwater
_	Notice of Application: 5HO21-00010 Hyla Crossing Stormwater. Discharge! Vicinity map, site plan; 300' Notice buffer map
	I declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.
	Signed on the 15th day of Stepley 201 at ISSAQUAL Washington.
_	Printed Name Signature BRIAN D. MOSS Printed Name Signature

Notice of Application



Project Name: Hyla Crossing Stormwater Discharge

Application: May 26, 2021
Application Complete: June 15, 2017
Notice of Application: September 16, 2021

Notice of Application Public Comment Period:

September 16, 2021 - September 30, 2021

(See Public Comment below for more information)

PROJECT INFORMATION

File Number(s): SHO21-00010

Project Description: The Project proposes to construct a new pipeline that will convey stormwater from a new pump station to a nearshore outfall next to Lake Sammamish. The 24-inch HPE pipeline will total approximately 2,897 linear feet long and convey water to Lake Sammamish, through a wetland in Sammamish Cove Park. Because the pipe alignment and outfall location do not meet the city's shoreline master Program, a Shoreline Variance is being sought. (See Site Plan)

Project Location: Sammamish Cove Park (See Vicinity Map)

Size of Subject Area in Acres: 18.21 Sq. Ft.: 793,167

Applicant: Kristi Tripple, Rowley Properties

1595 NW Gilman Blvd Suite 1

Phone: 425-395-9592; Email: kristit@rowleyproperties.com

Decision Maker: Washington State Department of Ecology

Required City Permits: Administrative Site Development, Site

Work, Building

Required City Permits, Not Part of this Application:Administrative Site Development, Site Work, Building

Required Studies: Wetland; Critical Area

Existing Environmental Documents Relevant to this

Application: SEP11-00005

REGULATORY INFORMATION

Zoning: CF-OS - Community Facilities - Open Space

Comprehensive Plan Designation: Lake Sammamish State Park

Consistent with Comprehensive Plan: Yes

Preliminary Determination of the Development Regulations that will be used for Project Mitigation and Consistency: Shoreline

Master Program; IMC 18.10; IMC 16.36

PUBLIC COMMENT

Key application documents are available at the City's website: issaquahwa.gov/development. Click on the parcel, then select "View Related Documents and Permits" to see the available submittals. The full application is available for review at the Permit Center, City Hall Northwest, 1775 12th Avenue NW (next to Holiday Inn and behind Lowe's), 9 am - 5 pm. Please make an appointment with the Project Planner.

Although comments may be accepted up until the final decision is issued, submittal of comments during the Notice of Application Comment Period will ensure comments are considered prior to issuing a decision and will allow staff and/or the applicant to address comments as early in the process as possible.

Written comments are due by 5:00 pm on the Public Comment Period date noted above to:

Community Planning & Development Department P.O. Box 1307, Issaquah, WA 98027

Or by e-mail to the Project Planner noted below.

To receive further public notices on this project please provide your name, address, and e-mail to the Project Planner and request to become a Party of Record.

Notice, when required, is required to be provided to property owners within 300 feet of the site and to Parties of Record. Please share this notice with others in your neighborhood who may be interested in this project. Property owner, Mortgagee, Lien Holder, Vendor, Seller, etc., please share this notice with tenants and others who may be interested in this project.

CITY CONTACT INFORMATION

Project Planner: Doug Yormick, Assistant Planner

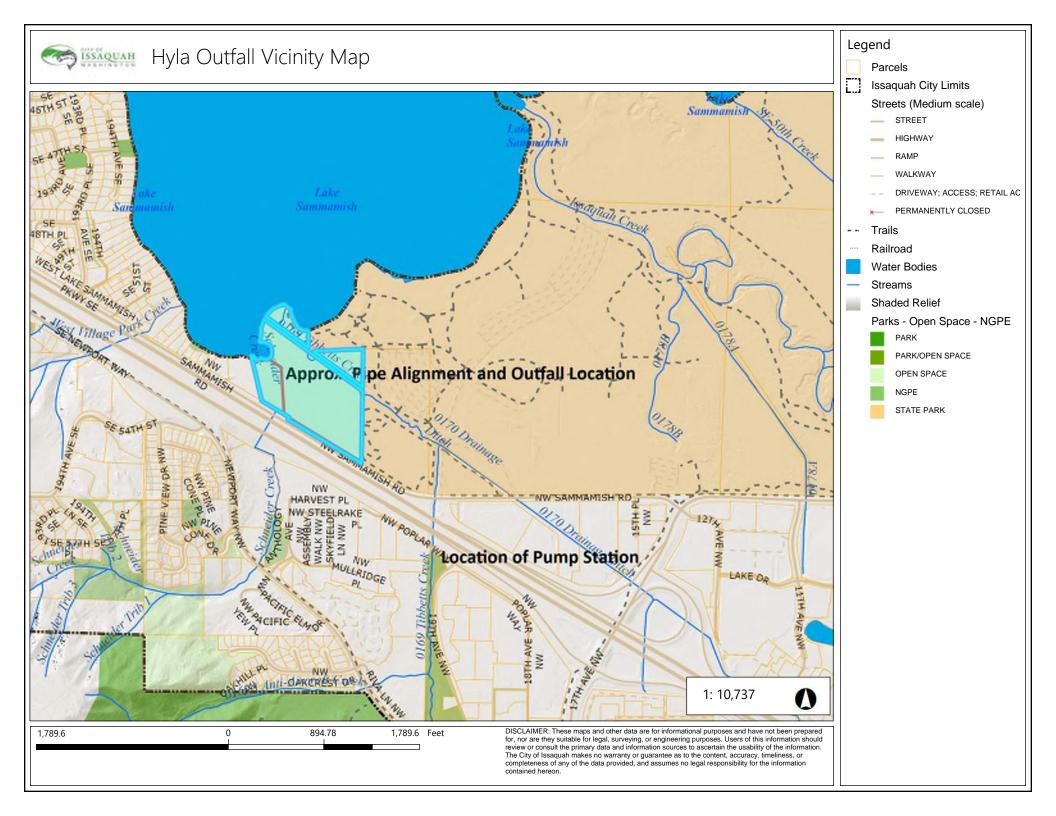
Phone Number: 425-837-3083

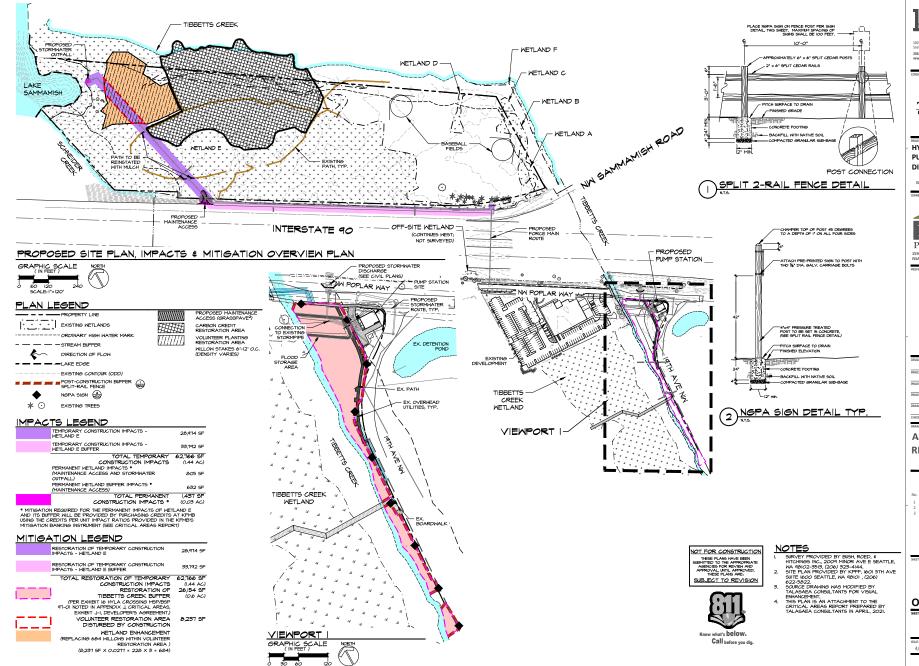
E-Mail: dougy@issaquahwa.gov

Development Services Department:

Phone Number: 425-837-3100

E-Mail: <u>CPD@issaquahwa.gov</u>





Lpff

1601 5th Avenue, Suite 1600
Seattle, WA 98101

TALASAEA
CONSULTANTS, INC.
Revource and
Rantromental Planning

HYLA CROSSING
PUMPED STORMWATER
DISCHARGE

ISSAQUAH, WA



CESION TEAM EP, AO
PRINCIPAL BS
PRODECT MANAGER AO
PRODECT ANGERECT EP
DRAWN BY
FH

DRAWING SET DESCRIPTION

ASDP

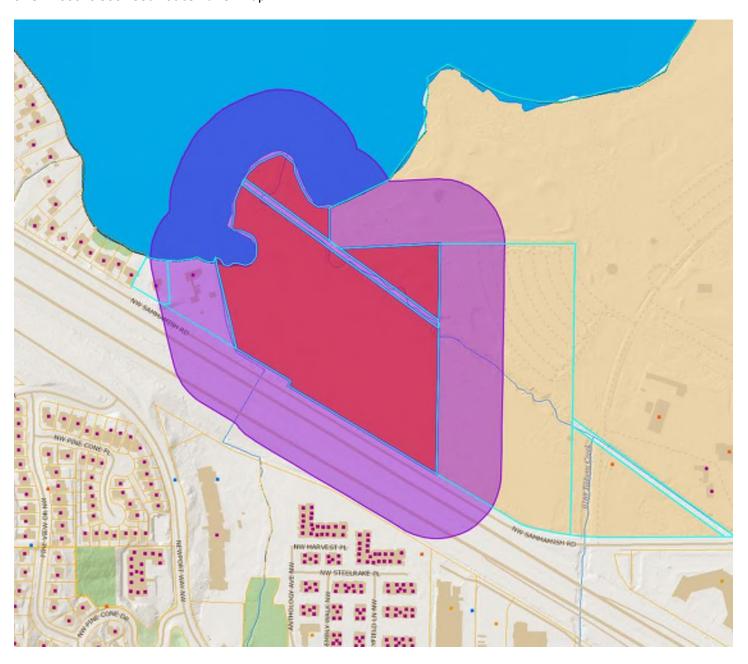
REVISION #1

SITE PLAN, IMPACTS & MITIGATION OVERVIEW PLAN

W2.0

4/12/2021

SHO21-00010 300 Foot Notice Buffer Map



2022 ame:

VICINITY MAP



(ACCESSED 10/7/2019)



CONTACTS

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<u>ENGINEER</u>

KPFF

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PHONE: (206) 622-5822 CONTACT: CHRIS BORZIO, PE

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REDMOND, WA 98052 206-309-8100

CONTACT: JENNIFER MARRIOTT, PWS JEN@WET.LAND

SHEET INDEX

SHEET NUMBER	SHEET TITLE
WI.0	EXISTING CONDITIONS PLAN
W2.0	PROPOSED SITE PLAN, IMPACTS & MITIGATION OVERVIEW PLAN
W3.0	PLANTING PLAN
M3.1	PLANTING PLAN

PLANTING PLAN

PLANT SCHEDULE \$ NOTES

PLANTING DETAILS

PLANTING SPECIFICATIONS

PERFORMANCE MONITORING OBJECTIVES



Know what's below. Call before you dig.

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206.622.5822



HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



EP, AO PROJECT ARCHITECT DRAWN BY

ASDP/SSDP/SV **RESUBMITTAL**

	I	
No.	DATE	DESCRIPTION
1	10/3/2019	30% CD
2	4/1/2020	ASDP
3	4/12/2021	ASDP REVISION #1
4	9/8/2021	ASDP REVISION #2
5	4/12/2022	ASDP/SSDP/SV

EXISTING CONDITIONS PLAN

W1.0

4/12/2021

VIEWPORT

THE VOLUNTEER RESTORATION AREA)

(ESTIMATE: 8,237 SF (CONSTRUCTION AREA) \times 0.02T7 =228 \times 3 = 684)

2022 – 2:51pm :name: \ XS-SUR-



Seattle, WA 98101 206.622.5822 www.kpff.com



HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



ISSAQUAH WA, 98027

FESSIONAL SEAL

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ASDP/SSDP/SV RESUBMITTAL

REVISIONS				
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5	4/12/2022	ASDP/SSDP/SV		

SITE PLAN, IMPACTS & MITIGATION OVERVIEW PLAN

W2.0

4/12/2021

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PLAN LEGEND

PROPERTY LINE

- - - - - STREAM BUFFER

* ①

2022 – ame: \

EXISTING WETLANDS

---- ORDINARY HIGH WATER MARK

DIRECTION OF FLOW

----EXISTING CONTOUR (ODD)

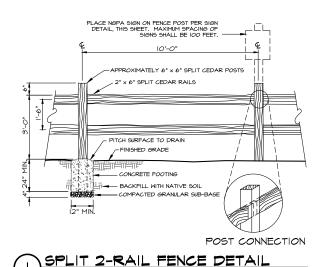
POST-CONSTRUCTION BUFFER SPLIT-RAIL FENCE

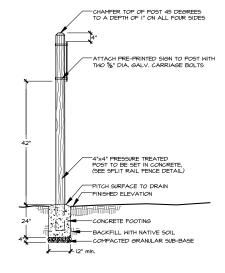
NGPA SIGN (2)

EXISTING TREES

- - - - EDGE OF OPEN WATER

PROPOSED STORMWATER





(2) NGPA SIGN POST DETAIL TYP.



NGPA SIGN NOT TO SCALE



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HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



EP, AO PROJECT ARCHITECT

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REVISIONS				
o. 1	DATE 10/3/2019	DESCRIPTION 30% CD		
2 3 4	4/1/2020 4/12/2021 9/8/2021	ASDP REVISION #1 ASDP REVISION #2		
5	4/12/2022	ASDP/SSDP/SV		

SITE PLAN, **IMPACTS & MITIGATION OVERVIEW PLAN**

W2.1

ISSUE DATE 4/12/2021

IMPACTS LEGEND

TEMPORARY CONSTRUCTION IMPACTS -28,776 SF WETLAND E TEMPORARY CONSTRUCTION IMPACTS - WETLAND E BUFFER 13,025 SF 41,801 SF CONSTRUCTION IMPACTS (0.96 AC) PERMANENT WETLAND IMPACTS * 805 SF (STORMWATER OUTFALL) PERMANENT WETLAND BUFFER IMPACTS * 244 SF (MAINTENANCE ACCESS) TOTAL PERMANENT 1,049 SF CONSTRUCTION IMPACTS * (0.02 AC)

* MITIGATION REQUIRED FOR THE PERMANENT IMPACTS OF WETLAND E AND ITS BUFFER WILL BE PROVIDED BY PURCHASING CREDITS AT KFMB USING THE CREDITS PER UNIT IMPACT RATIOS PROVIDED IN THE KFMB'S MITIGATION BANKING INSTRUMENT (SEE CRITICAL AREAS REPORT)

MITIGATION LEGEND

28.776 SF 13.025 SF

TOTAL RESTORATION OF TEMPORARY 41,801 SF CONSTRUCTION IMPACTS (0.96 AC) 26,154 SF TIBBETTS CREEK NORTHERN (0.6 AC)

ENHANCEMENT AREA (PER EXHIBIT I6 HYLA CROSSING MSP/BSF 97-01 NOTED IN APPENDIX J, CRITICAL AREAS, EXHIBIT J-I, DEVELOPER'S AGREEMENT.)

VOLUNTEER RESTORATION AREA 8,237 SF DISTURBED BY CONSTRUCTION

METLAND ENHANCEMENT (AREA TO BE ENHANCED BY NUMBER OF WILLOWS DISPLACED BY CONSTRUCTION WITHIN THE VOLUNTEER RESTORATION AREA)

(ESTIMATE: 8,237 SF (CONSTRUCTION AREA) X

0.0277 =228 × 3 = 684)

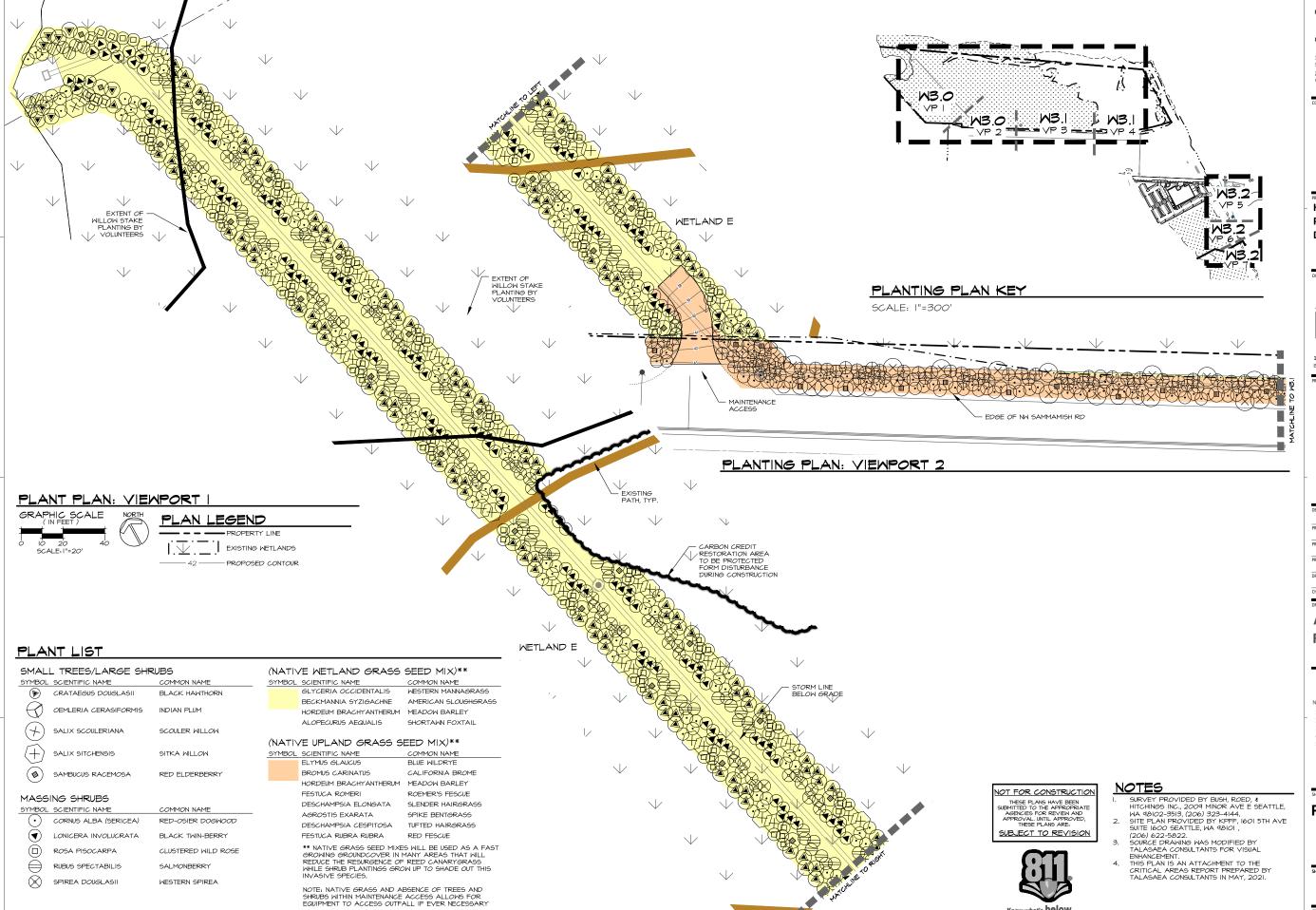
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HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH. WA



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REVISIONS				
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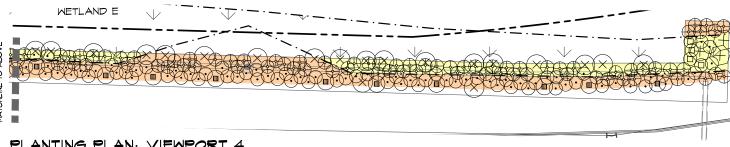
PLANTING PLAN

W3.0

4/12/2021

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PLANTING PLAN: VIEWPORT 4

PLAN LEGEND

EXISTING WETLANDS

PLANT LIST

SMALL TREES/LARGE SHRUBS

	,		(
1B0L	SCIENTIFIC NAME	COMMON NAME	SYMBOL S
(4)	CRATAEGUS DOUGLASII	BLACK HAWTHORN	
$\bar{}$			8
\mathcal{I}	OEMLERIA CERASIFORMIS	INDIAN PLUM	

COMMON NAME

WESTERN SPIREA

(+) SALIX SCOULERIANA SCOULER WILLOW SALIX SITCHENSIS

SAMBUCUS RACEMOSA RED ELDERBERRY

MASSING SHRUBS SYMBOL SCIENTIFIC NAME

SPIREA DOUGLASII

\odot	CORNUS ALBA (SERICEA)	RED-OSIER DOGWOO
\bigcirc	LONICERA INVOLUCRATA	BLACK TWIN-BERRY
	ROSA PISOCARPA	CLUSTERED WILD RO
\bigcirc	PUBLIC SPECTABILIS	SAI MONREDRY

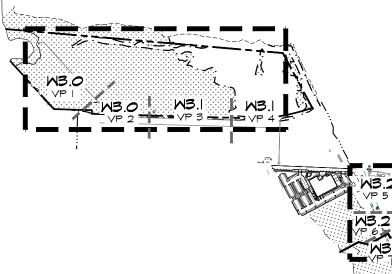
(NATIVE WETLAND GRASS SEED MIX)**

(14/41)		JLLD 1 117 9
SYMBOL	SCIENTIFIC NAME	COMMON NAME
	GLYCERIA OCCIDENTALIS	WESTERN MANNAGRASS
	BECKMANNIA SYZIGACHNE	AMERICAN SLOUGHGRAS
	HORDEUM BRACHYANTHERUM	MEADOW BARLEY
	ALOPECURUS AEQUALIS	SHORTAWN FOXTAIL

(NATIVE UPLAND GRASS SEED MIX)**

1B0L	SCIENTIFIC NAME	COMMON NAME
	ELYMUS GLAUCUS	BLUE WILDRYE
	BROMUS CARINATUS	CALIFORNIA BROME
	HORDEUM BRACHYANTHERUM	MEADOW BARLEY
	FESTUCA ROMERI	ROEMER'S FESCUE
	DESCHAMPSIA ELONGATA	SLENDER HAIRGRASS
	AGROSTIS EXARATA	SPIKE BENTGRASS
	DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS
	FESTUCA RUBRA RUBRA	RED FESCUE

** NATIVE GRASS SEED MIXES WILL BE USED AS A FAST GROWING GROWIDCOVER IN MANY AREAS THAT WILL REDUCE THE RESURGENCE OF REED CANARYGRASS WHILE SHRUB PLANTINGS GROW UP TO SHADE OUT THIS



PLANTING PLAN KEY

SCALE: I"=300'

<u>NOTES</u> NOT FOR CONSTRUCTION

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HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



ISSAQUAH WA, 98027

EP, AO PRINCIPAL PROJECT MANAGER PROJECT ARCHITECT DRAWN BY FH

ASDP/SSDP/SV **RESUBMITTAL**

	REVISI	ONS
No.	DATE	DESCRIPTION
- 1 2 3 4 5	10/3/2019 4/1/2020 4/12/2021 9/8/2021 4/12/2022	30% CD ASDP ASDP REVISION #1 ASDP REVISION #2 ASDP/SSDP/SV

PLANTING PLAN

W3.1

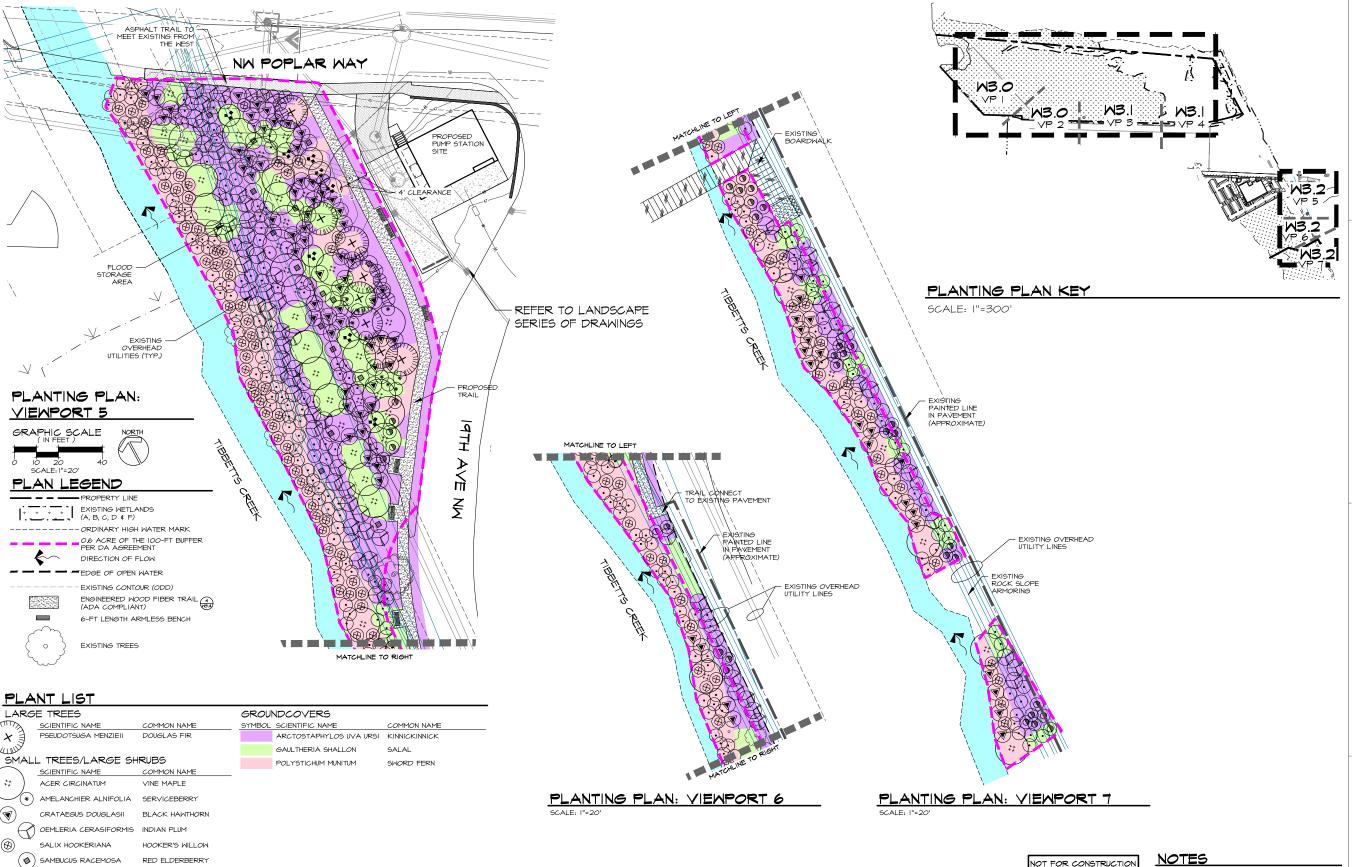
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MASSING SHRUBS SCIENTIFIC NAME

RUBUS PARVIFLORUS

RUBUS SPECTABILIS

ROSA PISOCARPA

SPIREA DOUGLASII

COMMON NAME

THIMBLEBERRY

SALMONBERRY

CLUSTERED WILD ROSE

CORNUS ALBA (SERICEA) RED-OSIER DOGWOOD

(LONICERA INVOLUCRATA BLACK TWIN-BERRY

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HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



ISSAQUAH WA, 98027

DESIGN TEAM	EP, AO	•
PRINCIPAL	BS	
PROJECT MANAGER	EP	
PROJECT ARCHITECT	EP	
DRAWN BY	FH	

ASDP/SSDP/SV **RESUBMITTAL**

REVISIONS									
No. 1 2 3 4 5	DATE 10/3/2019 4/1/2020 4/12/2021 9/8/2021 4/12/2022	DESCRIPTION 30% CD ASDP ASDP REVISION #1 ASDP REVISION #2 ASDP/SSDP/SV							
SHEET TITLE		·							

PLANTING PLAN

W3.2

4/12/2021

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SUBJECT TO REVISION

NOT FOR CONSTRUCTION



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X

		ML		QTY./	ZONE				
SCIENTIFIC NAME	COMMON NAME	STATUS	- 1	2	3	4	SPACING	SIZE (MIN.)	NOTES
PSEUDOTSUGA MENZIESII	DOUGLAS FIR	FACU	-	-	8	-	AS SHOWN	6' HT.	FULL & BUSHY

SMALL TREES/LARGE SHRUBS

		SCIENTIFIC NAME	COMMON NAME	STATUS	1	2	3	4	SPACING	SIZE (MIN.)	NOTES
	<i>‡‡</i>	ACER CIRCINATUM	VINE MAPLE	FAC	-	-	40	-	AS SHOWN	4' HT.	SINGLE TRUNK, WELL BRANCHED
`	*) AMELANCHIER ALNIFOLIA	SERVICEBERRY	FACU	-	-	9	-	5' O.C.	24" HT.	MULTI-CANE (3 MIN.)
	•	CORYLUS CORNUTA	WESTERN HAZELNUT	FACU	-	-	8	-	AS SHOWN	4-5' HT.	SINGLE TRUNK, WELL BRANCHED
	\bigcirc	CRATAEGUS DOUGLASII	BLACK HAWTHORN	FAC	131	-	84	-	5' O.C.	24" HT.	MULTI-STEM
	\bigcirc	OEMLERIA CERASIFORMIS	INDIAN PLUM	FACU	-	-	75	-	5' O.C.	24" HT.	MULTI-STEM
	⊗) SALIX HOOKERIANA	HOOKER'S WILLOW	FACH	-	-	277	-	3/SYMBOL	4' CUTTING	½" DIA. MIN., BARK INTACT
	$(+)_{-}$	SALIX SCOULERIANA	SCOULER WILLOW	FAC	36	213	-	-	3/SYMBOL	4' CUTTING	½" DIA. MIN., BARK INTACT
	(+	SALIX SITCHENSIS	SITKA WILLOW	FACH	171	-	-	342	3/SYMBOL	4' CUTTING	½" DIA. MIN., BARK INTACT
	(M)	SAMBUCUS RACEMOSA	RED ELDERBERRY	FACU	26	45	16	-	5' O.C.	24" HT.	MULTI-CANE (3 MIN.)

MASSING SHRUBS

SYMBOL SCIENTIFIC NAME	COMMON NAME	STATUS	- 1	2	3	4	SPACING	SIZE (MIN.)	NOTES
CORNUS ALBA (SERICEA)	RED-OSIER DOGWOOD	FACH	112	261	208	-	4' O.C.	I GAL.	MULTI-CANE (3 MIN.)
LONICERA INVOLUCRATA	BLACK TWIN-BERRY	FAC	136	-	-	-	4' O.C.	I GAL.	MULTI-CANE (3 MIN.)
ROSA NUTKANA	NOOTKA ROSE	FACU	-	-	33	-	4' O.C.	I GAL.	MULTI-CANE (3 MIN.)
ROSA PISOCARPA	CLUSTERED WILD ROSE	FAC	108	-	-	-	4' O.C.	I GAL.	MULTI-CANE (3 MIN.)
NUBUS PARVIFLORUS	THIMBLEBERRY	FACU	-	-	42	-	4' O.C.	I GAL.	MULTI-CANE (3 MIN.)
RUBUS SPECTABILIS	SALMONBERRY	FAC	88	-	-	-	4' O.C.	I GAL.	MULTI-CANE (3 MIN.)
SPIREA DOUGLASII	WESTERN SPIREA	FACH	133	224	-	-	4' O.C.	I GAL.	FULL & BUSHY

QTY /7ONE

GROUNDCOVERS

			ML		QTY	./ZONE				
SYMBOL	SCIENTIFIC NAME	COMMON NAME	STATUS	1	2	3	4	SPACING	SIZE (MIN.)	NOTES
	ARCTOSTAPHYLOS UVA-URSI	KINNICKINNICK	FACU	-	-	3,090	-	2' O.C.	I GAL	FULL & BUSHY
	GAULTHERIA SHALLON	SALAL	FACU	-	-	1,456	-	2' O.C.	I GAL.	FULL & BUSHY
	POLYSTICHUM MUNITUM	SWORD FERN	FACU	-	-	2,909	-	2' O.C.	I GAL.	FULL & BUSHY

NATIVE WETLAND GRASS SEED MIX** (20-25 LBS/ACRE)

					ML		QTY.	ZONE			
e	SYMBOL .	SCIENTIFIC NAME	COMMON NAME	%	STATUS		2	3	4	UNITS	
Ī		GLYCERIA OCCIDENTALIS	WESTERN MANNAGRASS	30	0BL	13	- 1	-	-	LBS.	
		BECKMANNIA SYZIGACHNE	AMERICAN SLOUGHGRASS	60	OBL.						
		HORDEUM BRACHYANTHERUM	MEADOW BARLEY	10	FACH						
		AL OPECUPIS AFOLIALIS	SHOPTAKIN FOYTAII	10	OBI						

NATIVE UPLAND GRASS SEED MIX** (20-25 LBS/ACRE)

				ML		QIY./2	ONE		
SYMBOL	SCIENTIFIC NAME	COMMON NAME	%	STATUS	- 1	2	3	4	UNITS
	ELYMUS GLAUCUS	BLUE WILDRYE	30	UPL	-1	8	7	-	LBS.
	BROMUS CARINATUS	CALIFORNIA BROME	25	NL					
	HORDEUM BRACHYANTHERUM	MEADOW BARLEY	10	FACH					
	FESTUCA ROMERI	ROEMER'S FESCUE	10	NL					
	DESCHAMPSIA ELONGATA	SLENDER HAIRGRASS	10	FACH					
	AGROSTIS EXARATA	SPIKE BENTGRASS	5	FACH					
	DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	5	FACH					
	FESTUCA RUBRA RUBRA	RED FESCUE	5	NL					

** NATIVE GRASS SEED MIXES WILL BE USED AS A FAST GROWING GROUNDCOVER IN MANY AREAS THAT WILL REDUCE THE RESURGENCE OF REED CANARYGRASS WHILE SHRUB PLANTINGG GROW UP TO SHADE OUT THIS INVASIVE SPECIES.

GENERAL PLANT INSTALLATION NOTES

- PLANT TREES AND/OR SHRUBS I" HIGHER THAN DEPTH GROWN AT NURSERY
- ROOTBALL IF ROOT CIRCLING IS EVIDENT.
- STAKE DECIDIOUS AND EVERGREEN TREES 4 FEET AND OVER IN HEIGHT WITH ONE (I) STAKE PER TREE. STAKE STARES IMPOLATELY AFTER PLANTING, PLACE STAKE AT THE OUTER EDGE OF THE ROOTS OR ROOTSALL, IN LINE WITH THE PREVAILING WIND. STAKES SHALL BE LOOSELY ATTACHED USING CHAIN-LOCK TREE TIES TO ALLOW FOR SOME TRUNK MOVEMENT. STAKES TO BE VERTICAL, PARALLEL, EVEN-TOPPED, UNSCARRED AND DRIVEN INTO MONICHINED CURRENT DRIVEN ENTER ONE STATE OF THE PROPERTY.
- SUPER TRUNK PROVENENT. STAKES TO BE VERTICAL, PARALLEL, EVEN-TOPPED, MISCARRED AND DRIVEN INTO UNDISTURBED SUBGRADE. REMOVE AFTER ONE YEAR.
 WATER PLANTS IMMEDIATELY UPON PLANTING, THEN PROVIDE MANUAL WATERING OR A TEMPORARY IRRIGATION SYSTEM TO PREVENT PLANT MORTALITY AND ENSURE PROPER PLANT ESTABLISHMENT. PLANTS SHALL RECEIVE A STSTEM TO PREVENT PLANT MORTALTIT AND ENSURE PROPER PLANT ESTABLISHMENT. PLANTS SHALL RECEIVE A MINIMUM OF APPROXIMATELY ONE INCH OF WATER EVERY WEEK DURING THE DRY SEASON (GENERALLY JUNE 15TH - OCTOBER 15TH, OR EARLIER OR LATER IF CONDITIONS WARRANT) FOR THE FIRST SEASON AFTER PLANTING. IRRIGATION AMOUNTS MAY NEED TO BE INCREASED DURING PROLONGED PERIODS OF HOT, DRY WEATHER. IN THE BUFFER AREAS ONLY, FERTILIZE ALL TREES AND SHRUBS WITH A SLOW-RELEASE GENERAL PURPOSE GRANULAR FERTILIZER OR SLOW-RELEASE TABLETS AT MANUFACTURER'S SPECIFIED RATE. NO FERTILIZER SHALL BE APPLIED WITHIN WETLAND AREAS.
- IN THE BUFFER AREAS ON Y. A SOIL MOISTURE RETENTION AGENT, SUCH AS "SOIL MOIST" OR EQUAL, SHALL BE
- INCORPORATED INTO THE BACKFILL OF EACH PLANTING PIT, PER MANUFACTURER'S INSTRUCTIONS, NO MOISTURE RETENTION AGENT SHALL BE APPLIED WITHIN METLAND AREAS.

PLANTING DENSITY TABLES

ZONE I: PLANTING DENSITY TABLE - WETLAND E

	REQUIRED	DESIGNED				
PLANTED AREA	28,776 SF					
TREES 9' O.C.*	0	0				
SHRUBS 6' O.C.	805	941				
GROUNDCOVER 2' O.C.**	7,194/ 28,776 SF	7,194/ 258,776 SF				

- PER CITY OF ISSAQUAH, NO TREES WILL BE PLANTED WITHIN STORMWATER EASEMENTS.
- ** GRASS SEED MIXED BE AT 100% COVERAGE

ZONE 2: PLANTING DENSITY TABLE - WETLAND E BUFFER

	REQUIRED	DESIGNED			
PLANTED AREA	AREA 13,02				
TREES 9' O.C.*	0	0			
SHRUBS 6' O.C. (FULL COVERAGE)	361	743			
GROUNDCOVER 2' O.C.** (50% COVERAGE)	1,628/ 6,513 SF	1,628/ 6,513 SF			

- PER CITY OF ISSAQUAH, NO TREES WILL BE PLANTED WITHIN STORMWATER FASEMENTS
- ** GRASS SEED MIXED BE AT 100% COVERAGE

ZONE 3: PLANTING DENSITY TABLE - TIBBETTS CREEK BUFFER

	REQUIRED	DESIGNED	
PLANTED AREA	26,154 SF		
TREES 9' O.C.*	0	8	
SHRUBS 6' O.C.	724	1,523	
GROUNDCOVER 2' O.C.	6,539	7,455	

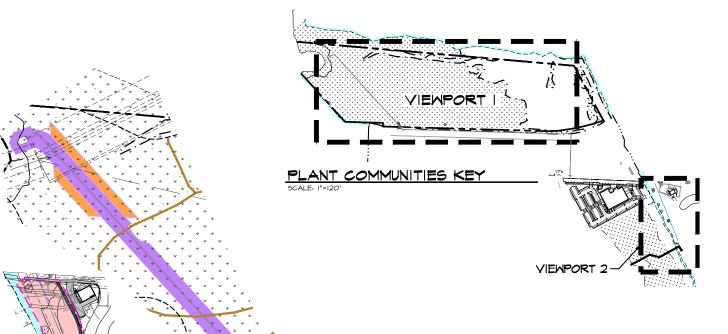
EXTENSIVE OVERHEAD AND UNDERGROUND UTILITIES IN THIS AREA PREVENT THE USE OF LARGE TREES ON WITHIN MUCH OF THE RESTORED BUFFER. COMIFERS HILL BE PLACED IN THE FIELD IN A LIMITED FASHION.

PLANT COMMUNITIES LEGEND



AREA OF MAINTENANCE ACCESS THROUGH VOLUNTEER PLANTING: 8,231 SF X 0.02T1 (6' O.C.) = 228 X 3 3 WILLOW STAKES PER PLANTING TO INFILL AREAS WHERE EXISTING WILLOW STAKES ARE NO' O.C.

VIEWPORT 2: PLANT COMMUNITIES



VIEWPORT I: PLANT COMMUNITIES

* * * * * * * * * * * * * * * * * *

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NOTES

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- HITCHINGS INC., 2009 MINOR AVE E SEATTLE, MA 48/102-35/13, (206) 323-4144.
 SITE PLAN PROVIDED BY KPFF, (60) 5TH AVE SUITE (600 SEATTLE, WA 48/101), ORDER (600 (206) 622-5822.
- SOURCE DRAWING WAS MODIFIED BY TALASAEA CONSULTANTS FOR VISUAL ENHANCEMENT.
- THIS PLAN IS AN ATTACHMENT TO THE
- CRITICAL AREAS REPORT PREPARED BY TALASAEA CONSULTANTS IN MAY, 2021.



Seattle WA 98101 206.622.5822 www.kpff.com



HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



ISSAQUAH WA. 98027

EP. AO PRINCIPAL RS PROJECT ARCHITECT DRAWN BY FH

ASDP/SSDP/SV **RESUBMITTAL**

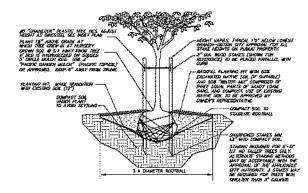
EP

DESCRIPTION 10/3/2019 30% CD 9/8/2021 ASDP REVISION #2 4/12/2022 ASDP/SSDP/SV

PLANT SCHEDULE & NOTES

W3.3

4/12/2021

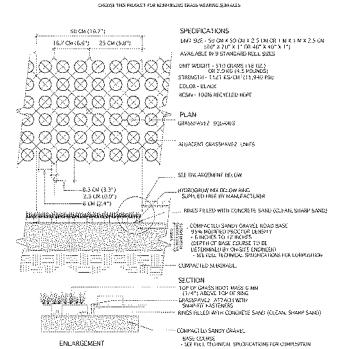


TYPICAL TREE PLANTING

TYPICAL TREE PLANTING DETAIL

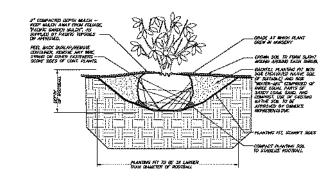
NOTE: STANDARD DETAILS PER DEVELOPER'S AGREEMENT APPENDIX G, LANDSCAPE.

TYPICAL GRASSPAVEZ DETAIL



hoye: Gradshplant evics shall be shedited by a landscape aachitect on landscape orsigner. GRASSPAVE2

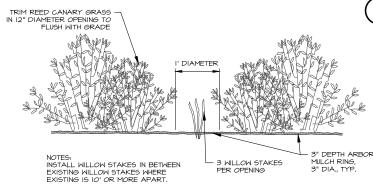
E: 6" COMPACTED BASE COURSE PER MANUFACTURER RECOMMENDATION



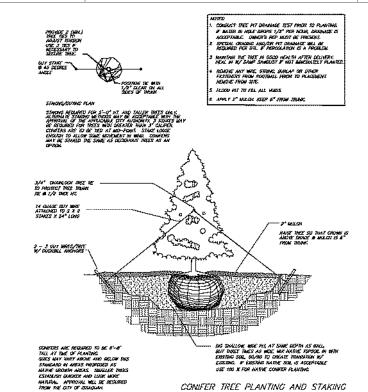
TYPICAL SHRUB PLANTING

2 TYPICAL SHRUB PLANTING DETAIL



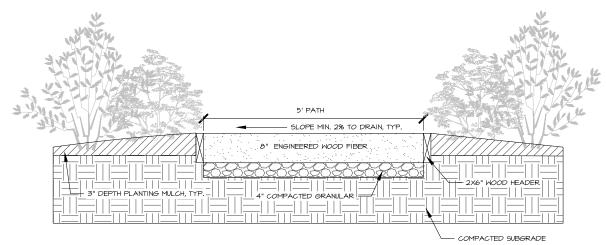


MILLOW STAKES
NOT TO SCALE



3 TYPICAL CONIFER TREE PLANTING DETAIL NOT TO SCALE

CONIFER TREE PLANTING AND STAKING



NOTE:

. WOOD SHALL BE CEDAR

2. ALL FASTENERS SHALL BE STAINLESS STEEL

3. ENSURE TRAIL IS COMPACTED ADEQUATELY TO PREVENT SETTLEMENT AND PONDING

4. ENSURE ENGINEERED WOOD FIBER (EWF) IS UNITERATED. SAMPLE AND MATERIALS DATA MUST BE SUBMITTED FOR REVIEW TO CONSULTANT

Engineered wood fiber ada compliant trail surface detai

NOT FOR CONSTRUCTION THESE PLANS HAVE BEEN SUBMITTED TO THE APPROPRIATE AGENCIES FOR REVIEW AND APPROVAL, UNTIL APPROVED, THESE PLANS ARE: SUBJECT TO REVISION

Know what's below.

Call before you dig.

- SURVEY PROVIDED BY BUSH, ROED, & HITCHINGS INC., 2009 MINOR AVE E SEATTLE, WA 98102-3513, (206) 323-4144.
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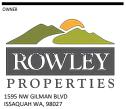
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HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



PROJECT ARCHITECT DRAWN BY FH

ASDP/SSDP/SV **RESUBMITTAL**

10/3/2019 30% CD 9/8/2021 ASDP REVISION #2 4/12/2022

> **PLANTING DETAILS**

W3.4

4/12/2021

II SEQUENCING A. GENERAL CONSTRUCTION

- I. CONTRACTOR SHALL GIVE THE PROJECT BIOLOGIST OR ECOLOGIST A MINIMUM OF TEN (IO)
- DAYS NOTICE PRIOR TO COMMENCING CONSTRUCTION.

 2.NO CONSTRUCTION WORK SHALL COMMENCE UNTIL THERE IS A MEETING BETWEEN THE CLIENT, THE PROJECT BIOLOGIST OR ECOLOGIST, THE GENERAL, CLEARING, AND/OR CLIENT, THE PROJECT BIOLOGIST ON EDUCATION, THE CAPRICAL SCIENCE, CLEARING, AND/LAC ARTHURS CONTRACTORS, AND THE LANDSCAPE CONTRACTOR. THE APPROVED PLANS AND SPECIFICATIONS SHALL BE REVIEWED TO ENSURE THAT ALL PARTIES INVOLVED UNDERSTAND THE INTERN AND THE SPECIFIC DETAILS RELATED TO THE CONSTRUCTION DOCUMENTS, SPECIFICATIONS, AND SITE CONSTRAINTS.
- 3 LOCATIONS OF EXISTING UTILITIES HAVE BEEN ESTABLISHED BY FIELD SURVEY OR LOCATIONS OF EAST THE OTHER HAVE BEEN ESTABLISHED BY FIELD SURVEY OF OBTAINED FROM AVAILABLE RECORDS AND SHOULD BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO; (1) INDEPENDENTLY VERIFY THE ACCURACY OF UTILITY LOCATIONS, AND (2) DISCOVER AND AVOID ANY UTILITIES WITHIN THE MITIGATION AREA(S) THAT ARE NOT SHOWN, BUT WHICH MAY BE AFFECTED BY IMPLEMENTATION OF THE PLAN, SUCH AREA(S) ARE TO BE CLEARLY MARKED IN THE FIELD. THE PROJECT BIOLOGIST OR ECOLOGIST SHALL RESOLVE ANY CONFLICTS WITH THE APPROVED GRADING PLAN PRIOR TO START OF CONSTRUCTION.
- 4.A COPY OF THE APPROVED PLANS MUST BE ON SITE WHENEVER CONSTRUCTION IS IN PROGRESS, AND SHALL REMAIN ON SITE UNTIL PROJECT COMPLETION.
- 5 CONSTRUCTION MUST BE PERFORMED IN ACCORDANCE WITH ALL AGENCY STANDARDS RULES, CODES, PERMIT CONDITIONS, AND/OR OTHER APPLICABLE ORDINANCES AND
- 6. THE PROJECT OWNER/APPLICANT IS RESPONSIBLE FOR OBTAINING ANY OTHER RELATED OR REQUIRED PERMITS PRIOR TO THE START OF CONSTRUCTION.

 7. A QUALIFIED WETLAND CONSULTANT SHALL BE ON SITE, AS NECESSARY, TO MONITOR
- CONSTRUCTION AND APPROVE MINOR REVISIONS TO THE PLAN.
- 8. DURING CONSTRUCTION, THE CONTRACTOR MUST USE MATERIALS AND CONSTRUCTION METHODS THAT PREVENT TOXIC SUBSTANCES AND OTHER POLLUTANTS FROM ENTERING MITIGATION AREAS OR OTHER NATURAL WATERS OF THE STATE.
- 9. PREVENTATIVE MEASURES SHALL BE USED TO PROTECT EXISTING STORM DRAINAGE SYSTEMS, EXISTING UTILITIES, AND ROADS.
- 0. PROVIDE SEDIMENT AND EROSION CONTROLS AROUND THE PROJECT AREA PRIOR TO SOIL DISTURBANCE FROM CONSTRUCTION ACTIVITY.
- B. <u>MITIGATION CONSTRUCTION</u>: THE FOLLOWING PROVIDES THE GENERAL SEQUENCE OF ACTIVITIES ANTICIPATED TO BE NECESSARY TO COMPLETE THE PLANTING PORTION OF THE MITIGATION PROJECT, SOME OF THESE ACTIVITIES MAY BE CONDUCTED CONCURRENTLY AS THE PROJECT PROGRESSES.
- CONDUCT A SITE MEETING BETWEEN THE CONTRACTOR, THE PROJECT BIOLOGIST OR ECOLOGIST, AND THE OWNER'S REPRESENTATIVE TO REVIEW THE PROJECT PLANS, STAGING/STOCKPILE AREAS, AND MATERIAL DISPOSAL AREAS.
- 2. PLANT TREES AND SHRUBS AS INDICATED ON MITIGATION PLANS
- 3 PLANT STAKES (CUTTINGS)
- 4. MULCH NEWLY INSTALLED PLANTS.
- 5. INSTALL TEMPORARY IRRIGATION SYSTEM AND PROGRAM FOR 0.5 INCHES OF WATER EVERY 3 DAYS.
- 6.INSTALL FENCING AND CRITICAL AREA PROTECTION SIGNS.

- A. PRODUCT DATA: FURNISH THE FOLLOWING WITH EACH PLANT MATERIAL DELIVERY: I INVOICES INDICATING SIZES AND VARIETY OF PLANT MATERIAL
- 2. CERTIFICATES OF INSPECTION REQUIRED BY STATE AND FEDERAL AGENCIES.
- B. QUALITY CONTROL SUBMITTALS:
- PRIOR TO DELIVERY OF MATERIALS, CERTIFICATES OF COMPLIANCE ATTESTING THAT MATERIALS MEET THE SPECIFIED REQUIREMENTS SHALL BE FURNISHED FOR THE FOLLOWING: PLANTS, TOPSOIL, FERTILIZER, AND ORGANIC MULCH. CERTIFIED COPIES OF THE MATERIAL CERTIFICATES SHALL INCLUDE THE FOLLOWING:
- $\alpha.$ PLANT MATERIALS: BOTANICAL NAME, COMMON NAME, SIZE, QUANTITY BY SPECIES, AND LOCATION WHERE GROWN.
- b.IMPORTED TOPSOIL: PARTICLE SIZE, PH, ORGANIC MATTER CONTENT, TEXTURAL CLASS, SOLUBLE SALTS, CHEMICAL AND MECHANICAL ANALYSES.
- G. FERTILIZER: CHEMICAL ANALYSIS AND PERCENT COMPOSITION
- d.IMPORTED MULCH: COMPOSITION AND SOURCE.

1.3 REFERENCES

A. SIZE AND GRADING STANDARDS: SHALL CONFORM TO THE CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.

I.4 QUALITY ASSURANCE

- A. <u>MORKER'S QUALIFICATIONS</u>. THE PERSONS PERFORMING THE PLANTING AND THEIR SUPERVISOR(S) SHALL BE PERSONALLY EXPERIENCED WITH PLANTING AND CARING FOR PLANT MATERIAL, AND SHALL HAVE BEEN REGULARLY EMPLOYED BY A COMPANY ENGAGED IN PLANTING AND CARING FOR PLANT MATERIAL FOR A MINIMUM OF 2 YEARS.
- B. PLANT MATERIAL: ALL PLANT MATERIALS SHALL BE LOCALLY GROWN OR REGIONALLY ACCLIMATIZED TO THE PACIFIC NORTHWEST.

15 DELIVERY INSPECTION STORAGE AND HANDLING

- A <u>DELIVERY</u>. A <u>DELIVERY</u> SCHEDULE SHALL BE PROVIDED AT LEAST 10 CALENDAR DAYS FRIOR TO THE FIRST DAY OF DELIVERY. PLANT MATERIALS SHALL BE DELIVERED TO THE JOB SITE NOT MORE THAN 1 MORNING DAYS PRIOR TO THEIR RESPECTIVE PLANTING DATES.
- B. <u>PROTECTION DURING DELIVERY</u>. PLANT MATERIAL SHALL BE PROTECTED DURING DELIVERY TO PREVENT DESICCATION AND DAMAGE TO THE BRANCHES, TRUNK, ROOT SYSTEM, OR EARTH BALL. BRANCHES SHALL BE PROTECTED BY TYING-IN, EXPOSED BRANCHES SHALL BE COVERED DURING TRANSPORT.
- C. <u>FERTILIZER</u>, FERTILIZER SHALL BE DELIVERED IN MANUFACTURER'S STANDARD SIZED BAGS SHOWING WEIGHT, ANALYSIS, AND MANUFACTURER'S NAME. STORE UNDER A WATERPROOF COVER OR IN A DRY PLACE AS DESIGNATED BY THE OWNER'S REPRESENTATIVE.
- D. INSPECTION: ALL PLANT MATERIALS SHALL BE INSPECTED UPON ARRIVAL AT THE JOB SITE BY THE OWNER'S REPRESENTATIVE FOR CONFORMITY TO TYPE AND QUANTITY WITH REGARD TO THEIR RESPECTIVE SPECIFICATIONS.
- E. <u>MULCH.</u> A MULCH SAMPLE SHALL BE INSPECTED BY THE PROJECT BIOLOGIST OR ECOLOGIST PRIOR TO THE MULCH BEING DELIVERED TO THE SITE.

F. STORAGE:

- I. PLANT MATERIAL NOT INSTALLED ON THE DAY OF ARRIVAL AT THE SITE SHALL BE PLANT MATERIAL NOT INSTALLED ON THE DATA OF ARRIVAL AT THE SHE SHALL BE STORED AND PROTECTED IN DESIGNATED AREAS, PLANTS STORED ON THE PROJECT SHE SHALL BE PROTECTED FROM EXTREME WEATHER CONDITIONS BY INSULATING THE ROOTS, ROOT BALLS OR CONTAINERS WHITH SAMPLIST, SOIL, COMPOST, BARK OR WOODCHIPS, PLANT MATERIAL SHALL BE PROTECTED FROM DIRECT EXPOSURE TO WIND AND SUN. BARE-ROOT PLANT MATERIAL SHALL BE HELLED-IN. CUTTINES AND EMERGENT PLANTS MUST BE PROTECTED FROM DRYINGS AND SHALL BE HELLED-IN WITH MOIST SOIL OR OTHER INSULATING MATERIAL. ALL PLANT MATERIAL STORED ON-SHE SHALL BE WATERED DAILY UNTIL INSTALLED.
- 2. STORAGE OF OTHER MATERIALS SHALL BE IN DESIGNATED AREAS.

I.6 SCHEDULING

- A. PLANTING SEASON: INSTALL WOODY PLANTS BETWEEN OCTOBER I AND FEBRUARY IS WHENEVER THE TEMPERATURE IS ABOVE 32 DEGREES F AND THE SOIL IS IN A WORKABLE CONDITION, UNLESS OTHERWISE APPROVED IN WRITING, CUTTINGS SHALL ONLY BE USED IF PLANTING OCCURS BETWEEN DECEMBER IST AND APRIL IST.
- B. PLANT INSTALLATION: EXCEPT FOR CONTAINER-GROWN PLANT MATERIAL. THE MAXIMUM SING AND INSTALLATION OF PLANT MATERIAL SHALL BE 21 DAYS THE MAXIMUM TIME BETWEEN PLANT INSTALLATION AND MULCH PLACEMENT SHALL BE 72

IT WARRANTY

- A. WARRANTY PERIOD: THE CONTRACTOR-PROVIDED WARRANTY SHALL EXTEND FOR A PERIOD OF ONE YEAR FROM THE DATE OF PHYSICAL COMPLETION, PHYSICAL COMPLETION FOR THE MORK OF THIS SECTION IS THE DATE WHEN ALL GRADING, PLANTING, IRRIGATION, AND RELATED WORK HAS BEEN COMPLETED AND IS ACCEPTED BY THE OWNERS, REPRESENTATIVE, THE PROJECT BIOLOGIST OR ECOLOGIST, AND APPLICABLE AGENCIES.
- B. <u>WARRANTY TERMS</u>. CONTRACTOR'S WARRANTY SHALL INCLUDE REPLACEMENT OF PLANTS DUE TO MORTALITY (SAME SIZE AND SPECIES SHOWN ON THE DRAWINGS). PLANTS REPLACED UNDER THIS WARRANTY SHALL BE WARRANTED FOR AN ADDITIONAL YEAR AFTER REPLACEMENT
- C. EXCEPTIONS: LOSS DUE TO EXCESSIVELY SEVERE CLIMATOLOGICAL CONDITIONS (SUBSTANTIATED BY IO-YEAR RECORDED WEATHER CHARTS), OR CASES OF NEGLECT BY OWNER, OR CASES OF ABUSE/DAMAGE BY OTHERS

PART 2: PRODUCTS AND MATERIALS

A. <u>GENERAL:</u> ALL PLANT MATERIAL WILL CONFORM TO THE VARIETIES SPECIFIED OR SHOWN IN THE PLANT LIST(S) INDICATED ON THE MITIGATION PLANS AND BE TRUE TO BOTANICAL NAME AS LISTED IN: HITCHCOCK, C.L., AND A. CRONGUIST, 1913, FLORA OF THE PACIFIC NORTHWEST, UNIVERSITY OF WASHINGTON PRESS.

B. SHRUBS AND TREES:

- I. THE PROJECT BIOLOGIST OR ECOLOGIST SHALL EXAMINE PLANT MATERIAL PRIOR TO PLANTING, ANY MATERIAL NOT MEETING THE REQUIRED SPECIFICATIONS SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND REPLACED WITH LIKE MATERIAL THAT MEETS THE REQUIRED STANDARDS, PLANT MATERIAL SHALL MEET THE REQUIREMENTS OF STATE AND FEDERAL LAND HITH RESPECT TO PLANT DISEASE AND INFESTATIONS, INSPECTION CRETIFICATES, REQUIRED BY LAN, SHALL ACCOMPANY EACH AND EVERY SHIPMENT AND SHALL BE SUBMITTED TO THE PROJECT BIOLOGIST OR ECOLOGIST UPON CONTRACTOR'S RECEIPT OF PLANT MATERIAL.
- 2. PLANT MATERIALS SHALL BE LOCALLY GROWN (WESTERN WASHINGTON, WESTERN OREGON OR WESTERN BC), HEALTHY, BUSHY, IN VIGOROUS GRONING CONDITION, AND GUARANTEED TO BE TRUE TO SIZE, NAME, AND VARIETY. IF REPLACEMENT OF PLANT MATERIAL IS NECESSARY DUE TO CONSTRUCTION DAMAGE OR PLANT FAILURE WITHIN ONE YEAR OF INSTALLATION, THE SIZES, SPECIES, AND QUANTITIES SHALL BE EQUAL TO SPECIFIED PLANTS AS INDICATED ON THE PLANS
- 3. PLANTS SHALL BE NURSERY GROWN, WELL-ROOTED, OF NORMAL GROWTH AND CHARACTER, AND FREE FROM DISEASE OR INFESTATION, THE PROJECT BIOLOGIST OR ECOLOGIST RESERVES THE RIGHT TO REQUIRE REPLACEMENT OR SUBSTITUTION OF ANY PLANTS DEEMED UNSUITABLE.
- 4. TREES SHALL HAVE UNIFORM BRANCHING, SINGLE STRAIGHT TRUNKS (UNLESS SPECIFIED AS MULTI-STEM, MULTI-CANE, OR MULTI-TRUNK), AND AN INTACT AND UNDAMAGED CENTRAL LEADER. CONTAINER STOCK SHALL HAVE BEEN GROWN IN A CONTAINER FOR AT LEAST ONE FULL GROWING SEASON AND SHALL HAVE A NEEL DEVELOPED ROOT SYSTEM. PLA MATERIAL THAT IS ROOT-BOUND OR HAS DAMAGED ROOT ZONES OR BROKEN ROOT BALLS WILL NOT BE ACCEPTED.
- DALLS VILL NOT DE ACCEPTED.

 S. CONIFEROUS TREES SHALL BE NURSERY GROWN, FULL AND BUSHY, WITH UNIFORM BRANCHING AND A NATURAL, NON-SHEARED FORM, ORIGINAL CENTRAL LEADER MUST BE HEALTHY AND UNDAMAGED. MAXIMUM GAP BETWEEN BRANCHING SHALL NOT EXCEED 9 INCHES, AND LENGTH OF TOP LEADER SHALL NOT EXCEED 12 INCHES.
- $6. {
 m SHRUBS}$ SHALL HAVE A MINIMUM OF THREE STEMS AND SHALL BE A MINIMUM HEIGHT OF 18 INCHES.
- 7. TREES AND SHRUBS SHALL HAVE DEVELOPED ROOT AND BRANCH SYSTEMS. DO NOT PRINE BRANCHES BEFORE DELIVERY.
- & NATIVE PLANT CUTTINGS SHALL BE GROWN AND COLLECTED IN THE MARITIME PACIFIC .NATIVE PLANT CUTTINGS SHALL BE GROWN AND COLLECTED IN THE MARITIME PACIFIC MORTHHEST. CUTTINGS SHALL BE OF ONE TO THOO'T-BAR-OLD MOOD, 'S INCH DIAMETER MINIMM, CUTTINGS SHALL BE A MINIMM OF 4 FEET IN LENGTH WITH 4 LATERAL BUDS EXPOSED ABOVE GROUND A FIER PLANTING. THE TOP OF EACH CUTTINGS SHALL BE A MINIMM OF I INCH ABOVE A LEAF BUD, THE BOTTOM CUT 2 INCHES BELOW A BUD. THE BOAL ENDS OF THE CUTTINGS SHALL BE CUT AT A 45 DEGREE ANGLE AND MARKED CLEARLY SO THAT THE ROOTING BID IS PLANTED IN THE SOLL. CUTTINGS MUST BE KEPT COVERED AND MOIST DURING STORAGE AND TRANSPORT, AND NO CUTTINGS SHALL BE STORED MORE THAN THREE DAY'S FROM DATE OF CUTTING, CUTTINGS SHALL ONLY BE USED IF PLANTING OCCURS BETWEEN DECEMBER IST AND APRIL IST. FOR PLANTING BETWEEN APRIL IST AND DECEMBER IST, CONTAINER PLANTS SHALL BE USED.
- 9. PLANTS SHALL BE FREE OF SPLITS AND CHECKS, BARK ABRASIONS, AND DISFIGURING
- FOR DECIDUOUS PLANTS, BUDS SHALL BE INTACT AND REASONABLY CLOSED AT TIME OF PLANTING, IF DORMANT
- II. BALLED AND BURLAPPED PLANTS SHALL HOLD A NATURAL BALL. MANUFACTURED ROOT BALLS ARE UNACCEPTABLE.
- 12.PLANTS SHALL CONFORM TO SIZES INDICATED ON THE PLANT SCHEDULE. PLANTS MAY BE LARGER THAN THE MINIMUM SIZES SPECIFIED.

- I. SEED MIXES SHALL BE PROVIDED AS DESCRIBED IN THE PLANT SCHEDULE.
- D, NOXIOUS SPECIES: ALL PLANT STOCK AND OTHER RE-VEGETATION MATERIALS SHALL BE FREE FROM THE SEED OR OTHER PLANT COMPONENTS OF ANY NOXIOUS OR INVASIVE SPECIES, AS IDENTIFIED BY THE KING COUNTY NOXIOUS WEED CONTROL BOARD.
- E SUBSTITUTIONS, SUBSTITUTIONS WILL NOT BE PERMITTED WITHOUT A WRITTEN REQUEST AND PPROVAL FROM THE OWNER'S REPRESENTATIVE, THE PROJECT BIOLOGIST OR ECOLOGIST,

2.2 PLANTING SOIL

- A. TOPSOIL: IF SUITABLE STOCKPILED NATIVE TOPSOIL IS NOT AVAILABLE FOR MITIGATION PLANTINGS, TOPSOIL SHALL BE OBTAINED FROM OUTSIDE SOURCES. STOCKPILED OR IMPORTED TOPSOIL SHALL BE FERTILE, FRIABLE, SANDY LOAM SURFACE SOIL, FREE OF SUBSOIL, GLAY LUMPS, BRUSH, WEEDS, ROOTS, STUMPS, STONES LARGER THAN I INCH IN ANY DIMENSION, LITTER, OR ANY OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT
- B. <u>ORGANIC CONTENT.</u> IMPORTED TOPSOIL SHALL CONSIST OF ORGANIC MATERIALS AMENDED AS NECESSARY TO PRODUCE A BULK ORGANIC CONTENT OF AT LEAST 10 PERCENT AND NOT GREATER THAN 20 PERCENT, AS DETERMINED BY AASHTO-T-14.
- C. <u>COMPOST</u>, COMPOST SHALL MEET THE DEFINITION FOR COMPOSTED MATERIALS AS DEFINED BY THE WASHINGTON STATE DEPARTMENT OF ECOLOGY.

D. SOIL AMENDMENTS (BUFFER AREAS ONLY):

- D. AFERTILIZER. WOODY PLANTINGS SHALL BE FERTILIZED WITH A SLOW-RELEASE GENERAL GRANULAR FERTILIZER (16-16-16), WITH APPLICATION RATES AS SPECIFIED BY MANUFACTURER. FERTILIZER SHALL BE APPLIED AFTER PLANTING PIT IS BACKFILLED, AND PRIOR TO APPLICATION OF MILCH. FERTILIZER SHALL NOT BE APPLIED BETWEEN NOVEMBER AND MARCH. NO FERTILIZER SHALL BE APPLIED WITHIN WETLAND AREAS.
- D.B. SOIL MOISTURE RETENTION AGENT: A SOIL MOISTURE RETENTION AGENT, SUCH AS "SOILMOIST" OR EQUAL, SHALL BE INCORPORATED INTO THE BACKFILL OF EACH PLANTING PIT, PER MANUFACTURER'S INSTRUCTIONS, NO MOISTURE RETENTION AGENT SHALL BE APPLIED WITHIN WETLAND AREAS.

A. ARBORIST WOOD CHIPS MUST BE COARSE GROUND WOOD CHIPS (APPROXIMATELY $\frac{1}{2}$ INCH TO 6 INCHES ALONG THE LONGEST DIMENSION, NO PARTICLES TO BE GREATER THAN δ INCHES LENGTH) DERIVED FROM THE MECHANICAL GRINDING OR SHREDDING OF THE ABOVE-GROUND PORTIONS OF TREES, IT MAY CONTAIN MOOD, MOOD FIBER, BARK, BRANCHES, AND LEAVES, BUT MAY NOT CONTAIN VISIBLE AMOUNTS OF SOILL. IT MUST BE FREE OF NEEDS AND WEED SEEDS INCLUNING COUNTY AND STATE LISTED NOXIOUS WEEDS AND MUST BE FREE OF INVASIVE PLANT PORTIONS CAPABLE OF RESPROUTING, INCLUDING BUT NOT LIMITED TO HORSETAIL, IVY, CLEMATIS, AND KNOTWEED. IT MAY NOT CONTAIN MORE THAN & PERCENT BY WEIGHT OF MANUFACTURED INERT MATERIAL (SUCH AS PLASTIC, CONCRETE, CERAMICS, OR

B. ARBORIST WOOD CHIP MULCH, WHEN TESTED, MUST MEET THE FOLLOWING LOOSE VOLUME

95%-100% FOR 2" 0%-100% FOR I"

0%-50% FOR 5/8"

0%-40% FOR 1/4"

C. NO PARTICLES MAY BE LONGER THAN & INCHES.

- D. PRIOR TO DELIVERY, THE CONTRACTOR MUST PROVIDE THE FOLLOWING UPON REQUEST
- D.I. THE SOURCE OF THE PRODUCT AND SPECIES OF TREES INCLUDED IN IT D.2. A SIEVE ANALYSIS VERIFYING THE PRODUCT MEETS THE ABOVE SIZE GRADATION
- D.3. A 5 GALLON SAMPLE OF THE PRODUCT, FOR THE PROJECT ECOLOGIST/LANDSCAPE ARCHITECT'S APPROVAL.
- E. ALL MULCHES USED IN PLANTER BEDS SHALL BE FEATHERED TO THE BASE OF THE PLANTS AND KEPT AT LEAST SIX (6) INCHES AWAY FROM THE CROWNS OF SHRUBS OR TRUNKS OF
- 2.4 MISCELLANEOUS MATERIALS
- A. <u>STAKES, DEADMEN AND GUY STAKES.</u> SOUND, DURABLE, WESTERN RED CEDAR, OR OTHER APPROVED WOOD, FREE OF INSECT OR FUNGUS INFESTATION.
- B. CHAIN-LOCK TREE TIES: 1/-INCH WIDE, PLASTIC.

PART 3: EXECUTION

- A. <u>PLANTING AREA CONDITIONS</u>. CONTRACTOR SHALL VERIFY THAT PLANT INSTALLATION CONDITIONS ARE SUITABLE WITHIN THE PROJECT AREA(S). ANY UNSATISFACTORY CONDITIONS SHALL BE CORRECTED PRIOR TO START OF WORK, WHEN CONDITIONS CONDITIONS SHALL BE CORRECTED PRIOR TO START OF WORK, WHEN CANDITIONS DETRIMENTAL TO PLANT GROWITH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, POOR DRAINAGE, COMPACTED SOILS, SIGNIFICANT EXISTING OR INVASIVE VEGETATION, OR OTHER OBSTRUCTIONS, CONTRACTOR SHALL NOTIFY THE PROJECT BIOLOGIST OR ECOLOGIST PRIOR TO PLANTING, THE BEGINNING OF WORK BY THE CONTRACTOR CONSTITUTES ACCEPTANCE OF CONDITIONS AS SATISFACTORY.
- B. <u>PLANTING IN GRADED AREAS:</u> REFERENCE DEVELOPER'S AGREEMENT, APPENDIX G FOR
- C. <u>SOIL DECOMPACTION/SCARIFICATION:</u> SOILS IN GRADED/DISTURBED AREAS THAT ARE COMPACTED AND UNSUITABLE FOR PROPER PLANT GROWTH SHALL BE DECOMPACTED AND/OR SCARIFIED TO A MINIMUM DEPTH OF 6-INCHES PRIOR TO TOPSOIL INSTALLATION.

3.2 PLANTING

- A. <u>PLANT LAYOUT.</u> PROPOSED LOCATIONS OF TREES AND SHRUBS SHALL BE STAKED AND IDENTIFIED HITH AN APPROVED CODING STYSTEM OR BY PLACEMENT OF THE ACTUAL PLANT MATERIAL. FOR LARGE GROUPINGS OF A SINGLE SPECIES OF SHRUB, LANDSCAPE CONTRACTOR MAY STAKE THE PLANTING BOUNDARIES.
- B. OBTAIN LAYOUT APPROVAL FROM THE PROJECT BIOLOGIST OR ECOLOGIST PRIOR TO
- C. PLANTING PIT DIMENSIONS:
- I. PIT DEPTH; NOT TO EXCEED THE ROOT BALL OR CONTAINER DEPTH. 2. PIT WIDTH: MEASURED AT THE GROUND SURFACE, 2 TIMES THE WIDTH OF THE ROOT BALL OR CONTAINER, AS INDICATED IN TYPICAL PLANTING DETAILS.

A. SETTING PLANTS:

- I. BALLED PLANTS: SET PLANTS IN POSITION AND BACKFILL I/2 DEPTH OF BALL.

 COMPLETELY REMOVE CAGE AND TWINE FROM PLANT AND PULL BURLAP DOWN AS FAR AS
 POSSIBLE. COMPLETE BACKFILL AND SETTLE WITH WATER. ROOT COLLAR SHALL REMAIN I INCH ABOVE ADJACENT GRADE.
- 2. SHRUB/TREE PLANTING: SHRUB AND TREE STOCK SHALL BE PLANTED IN HAND-DUG HOLES ACCORDING TO PLANTING DETAILS SHOWN ON THE MITIGATION PLANS, SHRUB AND TREE ROOT BALLS SHALL BE SET SO THAT ROOT COLLARS ARE I INCH ABOVE ADJACENT GRADE, ALL BACKFILL SHALL BE GENTLY TAMPED IN PLACE.
- 3. SURFACE FINISH, FORM A SAUCER AS INDICATED ON TYPICAL PLANTING DETAILS, OR AS DIRECTED, GRADE SOIL TO FORM A BASIN ON THE LOWER SIDE OF SLOPE PLANTINGS TO CATCH AND RETAIN WATER,
- 4. ACTUAL PLANT SYMBOL QUANTITIES SHOWN ON THE PLANS SHALL PREVAIL OVE QUANTITIES SHOWN ON THE PLANT SCHEDULE IN THE EVENT OF A DISCREPANCY.

- ... GRADED BUFFER AREAS: ARE MULCHED PRIOR TO PLANT INSTALLATION AS DIRECTED IN THE GRADING SPECIFICATIONS.
- 2. WATER PLANTS THOROUGHLY AFTER MULCHING.
- F. PRUNING: PRUNE IMMEDIATELY AFTER PLANTING ONLY AS DIRECTED BY THE PROJECT BIOLOGIST OR ECOLOGIST.
- 6. TREE STAKES AND TIES: STAKE DECIDIOUS AND EVERGREEN TREES 4 FEET OR OVER IN HEIGHT HITH ONE (I) STAKE PER TREE, STAKE TREES IMMEDIATELY AFTER PLANTINS, PLACE STAKE AT THE OUTER EDGE OF THE ROOTS OR BALL, IN LINE HITH THE PREVAILING WIND, AND AT A IO DEGREE ANGLE FROM THE TREE TRUNK, LOOSELY ATTACH STAKE TO TREE USING CHAIN-LOCK TIES; TREE SHOULD BE ABLE TO SWAY.

H. INSTALLING TEMPORARY IRRIGATION

- I. <u>GENERAL REQUIREMENTS</u>. CONTRACTOR SHALL PROVIDE AN ABOVE-GROUND TEMPORARY IRRIGATION SYSTEM CAPABLE OF FULL HEAD-TO-HEAD COVERAGE OF ALL PLANTED PROJECT AREAS, THE TEMPORARY IRRIGATION SYSTEM SHALL EITHER UTILIZE CONTROLLER AND POINT OF CONNECTION (POC) FROM THE SITE IRRIGATION SYSTEM OR SHALL INCLUDE A SEPARATE POC AND CONTROLLER WITH A BACKFLOW PREVENTION DEVICE PER WATER JURISDICTION INSPECTION AND APPROVAL. THE SYSTEM SHALL BE CONED TO PROVIDE OPTIMAL PRESSURE AND UNIFORMITY OF COVERAGE, AS MELL AS SEPARATION BETWEEN AREAS OF FULL SUN AND SHADE AND FOR SLOPES IN EXCESS OF 5 PERCENT. THE SYSTEM SHALL BE OPERATIONAL FOR A MINIMUM OF THE FIRST TWO GROWING SEASONS AFTER PLANTING (THE FIRST TWO YEARS OF THE PERFORMANCE MONITORING PERIOD), OR LONGER IF REQUIRED TO ENSURE PROPER PLANT ESTABLISHMENT. THE SYSTEM SHALL BE REMOVED UPON FINAL APPROVAL OF THE MITIGATION PROJECT AT THE END OF THE PERFORMANCE MONITORING PERIOD.

 2. SYSTEM DESIGN AND MATERIALS: ELECTRONIC VALVES SHALL BE THE SAME
- MANUFACTURER AS THOSE USED FOR THE SITE IRRIGATION SYSTEM, OR SHALL BE RAIN BIRD PEB SERIES OR EQUAL IF SYSTEM IS NOT CONTIGUOUS HITH THE SITE SYSTEM. VALVES SHALL BE SIZED TO ACCOMMODATE PRESSURE AND ZONE CONSUMPTION REQUIREMENTS OF THE SYSTEM AND SHALL BE INSTALLED BELOW GRADE IN CARSON (OR EQUAL) VALVE BOXES, WIRING SHALL BE INSULATED MULTI-STRAND, TAPED TO THE MAIN AT 6-INCH INTERVALS WITH DUCT TAPE WRAPS, ON-GRADE MAIN AND LATERAL LINES SHALL BE CLASS 200 PVC BELL PIPE WITH SOLVENT WELDED FITTINGS, SECURED SHALL BE CLASS 200 PVC BELL PHE WITH SOLVENT WELDED HITTINGS, SECURED WITH MIRE STAPLES WHERE NECESSARY ON SLOPED AREAS, LINES SHALL BE PLACED 12 INCHES BELOW GRADE IN 4 INCH PCV SLEEVES WHERE VEHICULAR OR MAINTENANCE ACCESS IS NEEDED ACROSS LINES TO THE PROJECT AREA(S), MAXIMM MAIN LINE SIZE SHALL BE 11/2 INCHES AND MAY BE LOOPED BACK TO THE POC TO REDUCE PRESSURE LOSS, LATERAL LINES SHALL BE SIZED IN DECREASING DOWNSTREAM ORDER PRESSURE LOSS, LATERAL LINES SHALL BE SIZED IN DECREASING DOWNSTREAM ORDER PER RAIN BIRD DESIGN STANDARDS, THE MINIMUM LATERAL SIZE SHALL BE W. INCH. HEADS SHALL BE ROTOR OR IMPACT TYPE INSTALLED 4 FEET ABOVE FINISHED GRADE ON 2-INCH DIAMETER WOOD TREE STAKES, STAKES SHALL BE SECURE IN THE GROUND, BHEDDEDE TO A MINIMUM DEPTH OF 24 INCHES, HEADS AND % INCH PVC RISERS SHALL BE SECURED TO STAKES WITH CONSTRUCTION HOSE CLAMPS, NO FUNNY PIPE SHALL BE USED, HEADS AND NOZZLES SHALL PROVIDE MATCHED PRECIPITATION RATES FOR EACH ZONE.
- 3. PROGRAMMING. IRRIGATION SYSTEM SHALL BE PROGRAMMED TO PROVIDE APPROXIMATELY I/2 INCH OF WATER EVERY THREE DAYS DURING THE DRY SEASON (APPROXIMATELY JUNE 15TH TO OCTOBER 15TH). IRRIGATION AMOUNTS IN ZONES LOCATED IN THE SHADE OR ON STEEP SLOPES MAY BE REDUCED IF APPROVED BY THE PROJECT BIOLOGIST OR ECOLOGIST OR THE PROJECT ECOLOGIST/BIOLOGIST.

- 4. WATER AND POWER SUPPLY FOR SYSTEM! THE OWNER SHALL PROVIDE WATER AND
- 5. AS-BUILT DRAWING: A CHART DESCRIBING THE LOCATION OF ALL INSTALLED OR OPEN ZONES AND CORRESPONDING CONTROLLER NUMBERS SHALL BE PROVIDED BY THE CONTRACTOR AND PLACED INSIDE THE CONTROLLER AND GIVEN TO THE OWNER'S
- 6. <u>MARRANTY</u>. THE IRRIGATION SYSTEM SHALL INCLUDE A ONE-YEAR WARRANTY AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FROM THE DATE OF FINAL PROJECT ACCEPTANCE. THE WARRANTY SHALL INCLUDE SYSTEM ACTIVATION AND WINTERIZATION FOR THE FIRST YEAR AND IMMEDIATE REPAIR OF THE SYSTEM IF IT IS OBSERVED TO BE MALFUNCTIONING.
- J. <u>CRITICAL AREAS FENCE AND SIGNS</u>. INSTALL CRITICAL AREAS FENCE AND CRITICAL AREAS SIGNS WHERE SHOWN ON PLANS.

K. RESTORE EXISTING NATURAL OR LANDSCAPED AREAS:

- . EXISTING NATURAL OR LANDSCAPED AREAS THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION, UNLESS IMPROVEMENTS OR MODIFICATIONS ARE SPECIFIED FOR THOSE AREAS.
- 2. CONTRACTOR SHALL SEEDING TOR TROSE AREAS,
 2. CONTRACTOR SHALL SEEDING FOR TO PREVENT INJURY TO THE TRUNK, ROOTS, OR BRANCHES OF ANY TREES OR SHRUBS THAT ARE TO REMAIN. ANY LIVING, WOODY PLANT THAT IS DAMAGED DURING CONSTRUCTION SHALL BE TREATED WITHIN 24 HOURS OF OCCURRENCE, AND THE PROJECT BIOLOGIST OR ECOLOGIST AND HALL BE NOTIFIED IMMEDIATELY OF THE INCIDENT, DAMAGE TREATMENT SHALL INCLUDE EVENLY CUTTING BROKEN BRANCHES, BROKEN ROOTS, AND DAMAGED TREE BARK, INJURED PLANTS SHALL BE THOROUGHLY WATERED AND ADDITIONAL MEASURES SHALL BE TAKEN, AS APPROPRIATE, TO AID IN PLANT SURVIVAL.
- L. FINAL INSPECTION AND APPROVAL: THE CONTRACTOR SHALL NOTIFY THE PROJECT EINAL INSPECTION AND APPROVALL THE CONTRACTOR SHALL NOTIFY THE PROJECT BIOLOGIST OR ECOLOGISTS IN WRITING AT LEAST TEN DAYS PRIOR TO THE REQUESTED DATE OF A PROJECT COMPLETION INSPECTION. IF ITEMS ARE TO BE CORRECTED, A PUNCH LIST SHALL BE PREPARED BY THE PROJECT BIOLOGIST OR ECOLOGIST AND SUBMITTED TO THE CONTRACTOR FOR COMPLETION. AFTER PUNCH LIST ITEMS HAVE BEEN COMPLETED, THE PROJECT BIOLOGIST OR ECOLOGIST AS ECOLOGIST AND APPLICATION. ARE THE PROJECT FOR AGAIN FOR RINAL ACCEPTANCE OF PLAN IMPLEMENTATION, IF PUNCH LIST ITEMS REQUIRE PLANT REPLACEMENT, AND THE INSPECTION OCCURS OUTSIDE OF A SUITABLE PLANTING SEASON, PLANTS SHALL BE REPLACED DURING THE NEXT PLANTING SEASON.
- M. AS-BUILT PLAN: CONTRACTOR IS RESPONSIBLE FOR VERIFYING PLANT LOCATIONS AND ON THE PLANT SCHEDULE WITH THOSE REPRESENTED AS SYMBOLS ON TH MITIGATION PLANS. CONTRACTOR SHALL KEEP A COMPLETE SET OF PRINTS AT THE JOB MITIGATION PLANS, CONTRACTOR SHALL REEP A COMMELTE SET OF PRINTS AT THE JURY SITE DURING CONSTRUCTION FOR THE PURPOSE OF RECORDING IN-THE-FIELD CHANGES OF MODIFICATIONS TO THE APPROVED PLANS. THIS INFORMATION SHALL BE UPDATED ON A DAILY BASIS AS NECESSARY.

PART 4: ONE YEAR CONTRACTOR WARRANTY

NOTE: THESE MAINTENANCE SPECIFICATIONS APPLY TO THE ONE-YEAR CONTRACTOR NOTE, THESE MAINTENANCE SPECIFICATIONS APPLY TO THE ONE-YEAR CONTRACTOR WARRANTY PERIOD ONLY. IF THIS MITIGATION PROJECT REQUIRES LONG-TERM PERFORMANCE MONITORING, AS DETERMINED BY THE GOVERNING JURISDICTION, THE MAINTENANCE SPECIFICATIONS AND GUIDELINES ASSOCIATED WITH THE PERFORMANCE MONITORING STANDARDS ARE INCLUDED IN THE MITIGATION REPORT ASSOCIATED WITH THIS PLAN SET, AND MAY ALSO BE INCLUDED ON A SEPARATE PLAN SHEET IF REQUIRED.

- A. <u>REVIEW OF MAINTENANCE REQUIREMENTS</u>. CONTRACTOR SHALL REVIEW LANDSCAPE MAINTENANCE RECOMMENDATIONS WITH A QUALIFIED WETLAND BIOLOGIST FROM THE PROJECT BIOLOGIST OR ECOLOGIST WHO IS FAMILIAR WITH THE STATED GOALS AND OBJECTIVES OF THE PROJECT PLAN.
- B. MAINTENANCE ACTIVITIES: CONTRACTOR SHALL MAINTAIN TREES AND SHRUBS FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE IN ORDER TO MAINTAIN HEALTHY ORONTH AND HABITAT DIVERSITY. MAINTENANCE ACTIVITIES SHALL INCLUDE, BUT ARE NOT LIMITED TO: (A) REPLACING PLANTS DUE TO MORTILLITY, (B) TIGHTENING AND REPAIRING TREE STAKES, (C) RESETTING PLANTS TO PROPER GRADES AND UPRIGHT POSITIONS, AND (D) CORRECTING DRAINAGE PROBLEMS AS REQUIRED.

C. IRRIGATION:

- I. <u>SYSTEM MAINTENANCE AND REPAIR</u>. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACTIVATING, MINTERIZING, MAINTAINING, AND CONTINUALLY VERIFYING THE ADEQUARE OPERATION OF THE TEMPORARY IREGISATION SYSTEM FOR THE FIRST GROUNING SEASON FOLLOWING INSTALLATION, SYSTEM FUNCTION (INCLUDING ELECTRONIC VALVE AND CONTROLLER FUNCTION) SHALL BE INSPECTED FOR OPERATION AND FULL COVERAGE OF ALL PLANTED AREAS DURING EACH MAINTENANCE VISIT. THE SYSTEM SHALL BE REPAIRED IMMEDIATELY IF FOUND TO BE DAMAGED OR MALFUNCTIONING. SYSTEM SHALL BE PROGRAMMED AND MAINTAINED TO PROVIDE APPROXIMATELY 1/2 INCH OF WATER EVERY THREE DAYS.
- D. STAKE AND TIE REMOVAL: CONTRACTOR SHALL REMOVE TREE STAKES AND TIES ONE YEAR AFTER INSTALLATION, UNLESS RECEIVING WRITTEN PERMISSION FROM THE PROJECT BIOLOGIST OR ECOLOGIST TO DELAY REMOVAL OF STAKES AND TIES
- E. EROSION AND DRAINAGE: CONTRACTOR SHALL CORRECT EROSION AND DRAINAGE
- F. <u>IRRIGATION SYSTEM REMOVAL</u>: CONTRACTOR SHALL REMOVE IRRIGATION SYSTEM APPROXIMATELY 2 YEARS AFTER PLANTING, OR AS APPROVED BY THE PROJECT BIOLOGIST
- G. FINAL MAINTENANCE INSPECTION AND APPROVAL. UPON COMPLETION OF THE ONE-YEAR MAINTENANCE PERIOD, AN INSPECTION BY THE PROJECT BIOLOGIST OR ECOLOGIST SHALL BE CONDUCTED TO CONFIRM THAT THE PROJECT AREA WAS PROPERLY MAINTAINED. IF ITEMS ARE TO BE CORRECTED, A PUNCH LIST SHALL BE PREPARED AND SUMMITTED TO THE CONTRACTOR FOR CORRECTION, UPON CORRECTION OF THE PUNCH LIST ITEMS, THE PROJECT SHALL BE REVIEWED BY THE PROJECT BIOLOGIST OR ECOLOGIST FOR FINAL CLOSEOUT OF PLAN IMPLEMENTATION.
- H. THE CONTRACTOR SHALL PROVIDE MANUAL WATERING TO ALL UNIRRIGATED MITIGATION . THE CONTRACTOR SHALL PROVIDE MANUAL WATERING TO ALL UNIRRIGATED MITIGATION PLANTINGS BETWEEN JUNE 15TH AND OCTOBER 15TH, SUPPLEMENTAL WATERING MAY ALSO BE REQUIRED IF HOT, DRY WEATHER OCCURS EITHER BEFORE OR AFTER THESE DATES, DURING THE FIRST YEAR AFTER INSTALLATION, PLANTINGS SHALL BE WATERED A MINIMUM OF ONE INCH PER WEEK. WATERING FREGUENCY MAY BE INCREASED AS NECESSARY DURING PROLONGED PERIODS OF HOT, DRY WEATHER TO PREVENT PLANT MORTALITY.



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- (206) 622-5822. SOURCE DRAWING WAS MODIFIED BY TALASAEA CONSULTANTS FOR VISUAL ENHANCEMENT.
- ENHANCEMENT. THIS PLAN IS AN ATTACHMENT TO THE CRITICAL AREAS REPORT PREPARED BY TALASAEA CONSULTANTS IN MAY, 2021.

eattle, WA 98101

206.622.5822

www.kpff.com

CONSULTANTS, IN

HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



ISSAQUAH WA. 98027

EP. AO BS PROJECT MANAGE PROJECT ARCHITECT DRAWN BY FΗ

ASDP/SSDP/SV RESUBMITTAL

EP

REVISIONS DESCRIPTION 10/3/2019 30% CD /1/2020 ASDP REVISION #1 ASDP REVISION #2 9/8/2021 1/12/2022 ASDP/SSDP/SV

PLANTING SPECIFICATIONS

W4.0

ISSUE DATE 4/12/2021 FOR IO YEARS AS REQUIRED BY US ARMY CORPS OF ENGINEERS MITIGATION AREAS:

WETLAND E RESTORATION: 28.776 SF

· WETLAND E BUFFER RESTORATION: 13,025 SF

• TIBBETTS CREEK BUFFER ENHANCEMENT: 34,391 SF

OBJECTIVE A: THE WETLAND E RESTORATION AREA MUST EXHIBIT WETLAND HYDROLOGY. WETLAND CONDITIONS WILL BE VERIFIED BY THE PRESENCE OF HYDROLOGIC INDICATORS.

PERFORMANCE STANDARD AL: AFTER CONSTRUCTION, THE RESTORED
METLAND AREAS SHALL EXHIBIT 14 OR MORE CONSECUTIVE DAYS OF PONDING OR A MATER TABLE 12 INCHES OR LESS BELOW THE SOIL SURFACE DURING THE GROWING SEASON IN EACH YEAR OF NORMAL RAINFALL. EVIDENCE OF WETLAND HYDROLOGY MAY INCLUDE EVIDENCE OF SATURATED SOIL CONDITIONS (I.E., SIGNS OF PONDING, A WATER TABLE NEAR THE SURFACE, NATER MARKS, WATER-STAINED LEAVES, OR OXIDIZED RHIZOSPHERES). IN ADDITION, A COMBINATION OF NATIVE OR NATURALIZED WOODY AND HERBACEOUS VEGETATION THAT IS PREDOMINANTLY FAC OR WETTER WILL COVER THE WETLAND AREAS. HYDROLOGY SHALL BE MONITORED, AT A MINIMUM, DURING YEARS 1, 2, 3, 5, 7, AND 10.

OBJECTIVE B: CREATE STRUCTURAL AND PLANT SPECIES DIVERSITY IN ALL OF

PERFORMANCE STANDARD BI: PERCENT SURVIVAL OF ALL INSTALLED SPECIES MUST BE AT LEAST IOO% AT THE END OF YEAR I (PER CONTACTOR MARRANTY), AND AT LEAST 80% AT THE END OF YEARS 2 AND 3, SURVIVAL WILL NOT BE TRACKED AFTER YEAR 3 UNLESS A CONTINGENCY MEASURE IS IMPLEMENTED THAT REQUIRES NEW PLANTINGS.

<u>PERFORMANCE STANDARD B2:</u> AT LEAST & SPECIES OF DESIRABLE NATIVE PLANT SPECIES WILL BE PRESENT IN THE WETLAND RESTORATION, BUFFER RESTORATION, AND BUFFER ENHANCEMENT AREAS. SPECIES MAY BE COMPRISED OF BOTH PLANTED AND NATURALLY COLONIZED VEGETATION.

PERFORMANCE STANDARD B3. COVERAGE OF HERBACEOUS VEGETATION WITHIN THE DESIGNATED AREAS WHERE NO WOODLY VEGETATION HAS ALSO BEEN PLANTED SHALL BE AT LEAST 30% BY THE END OF YEAR I, 50% BY THE END OF YEAR 5, AND 65% BY THE END OF YEARS 5, 7, AND IO. THIS PERFORMANCE STANDARD DOES NOT APPLY TO AREAS WHERE SHRUB OR FOREST IS THE TARGETED COVER TYPE.

PERFORMANCE STANDARD B4: TOTAL PERCENT AREAL WOODY PLANT COVERAGE MUST BE AT LEAST 35% BY THE END OF YEAR 4, 50% BY THE END OF YEAR 5, 55% BY THE END OF YEAR 7, AND 65% BY THE END OF YEAR 10. THIS PERFORMANCE STANDARD ONLY APPLIES WHERE WOODY SPECIES ARE PROPOSED FOR PLANTING.

WOODY PLANT COVERAGE MAY BE COMPRISED OF BOTH PLANTED AND RECOLONIZED NATIVE SPECIES; HOWEVER, AT NO TIME DURING THE MONITORING PERIOD SHALL A RECOLONIZED NATIVE SPECIES (E.G., RED ALDER) COMPRISE MORE THAN 35% OF THE TOTAL WOODY PLANT COVER IN

OBJECTIVE C: REMOVE AND CONTROL INVASIVE PLANTS TO LESS THAN 10% COVER IN MITIGATION AREAS.

PERFORMANCE STANDARD CI: AFTER CONSTRUCTION AND THROUGHOUT THE IO-YEAR CORPS MONITORING PERIOD, AREAL COVERAGE BY NON-NATIVE INVASIVE PLANT SPECIES SHALL BE MAINTAINED AT IO% OR LESS THROUGHOUT THE MITIGATION SITE. THESE STANDARDS APPLY TO DITCH, RIPARIAN, AND UPLAND BUFFER AREAS COMBINED. THESE SPECIES INCLUDE, BUT ARE NOT LIMITED TO: SCOT'S BROOM, HIMALAYAN AND EVERGREEN BLACKBERRY, PURPLE LOOSESTRIFE, HEDGE BINDWEED, AND BITTERSWEET

PERFORMANCE STANDARD C2: PER CORPS REQUIREMENTS, AFTER CONSTRUCTION AND THROUGHOUT THE IO-YEAR CORPS MONITORING PERIOD, NON-NATIVE INVASIVE KNOTWEED SPECIES (SUCH AS POLYGONUM CUSPIDATUM. . POLYSTACHYUM, P. SACHALINENSE, AND P. BOHEMICUM) WILL BE ERADICATED THROUGHOUT THE MITIGATION AREAS (INCLUDING BUFFER AREAS) FOR A TOTAL COVER OF 0%.

MONITORING SCHEDULE

PERFORMANCE MONITORING OF THE MITIGATION AREAS WILL BE CONDUCTED ACCORDING TO ALL APPLICABLE CODE/REGULATORY REQUIREMENTS AND PERMIT CONDITIONS. MONITORING WILL BE CONDUCTED IN ACCORDANCE WITH IMC 18.10.500 FOR A MINIMUM OF FIVE (5) YEARS FOR THE CITY OF ISSAQUAH (CITY) AND IO YEARS FOR THE ARMY CORPS OF ENGINEERS (CORPS). MONITORING WILL BE CONDUCTED ACCORDING TO THE SCHEDULE PRESENTED BELOW, AND WILL BE PERFORMED BY A QUALIFIED BIOLOGIST OR ECOLOGIST FROM TALASAEA CONSULTANTS, INC.

PROJECTED SCHEDULE FOR PERFORMANCE MONITORING AND MAINTENANCE

YEAR	DATE	MAINTENANCE REVIEW	PERFORMANCE MONITORING	REPORT DUE TO AGENCIES
YEAR O, AS-BUILT AND BASELINE ASSESSMENT	FALL	×	×	×
1	SPRING	×	×	
	FALL	×	×	×
2	SPRING	×	×	
	FALL	×	×	×
3	SPRING	×		
	FALL	×	×	×
	SPRING	×		
4	FALL	×	×	
5	SPRING	×		
	FALL	×	×	×*
6	SPRING	×		
	FALL			
٦	SPRING	×		
	FALL		×	×*
8	SPRING	×		
	FALL			
q	SPRING	×		
	FALL			
	SPRING	×		
10	FALL	×	×	×**

- * OBTAIN FINAL APPROVAL TO FACILITATE BOND RELEASE FROM THE CITY (PRESUMES PERFORMANCE CRITERIA AREA MET).
- * ** OBTAIN FINAL APPROVAL FROM CORPS (PRESUMES PERFORMANCE CRITERIA ARE MET).

MONITORING REPORT WILL INCLUDE:

- I) PROJECT OVERVIEW
- 2) MITIGATION PERFORMANCE STANDARDS SUMMARY
- 3) SUMMARY DATA, INCLUDING DATE OF INSPECTION, LOCATION, DATE PLANTING WAS COMPLETED, BRIEF NARRATIVE ADDRESSING CONTEXT OF WATERBODIES AND LAND USE, METHODS OF EVALUATION, YEAR NUMBER OF THE REQUIRED IO
- 4) MAPS, PLANS AND PHOTOS TO SUPPORT SUMMARY DATA; PHOTOGRAPHS WILL BE FROM ESTABLISHED PHOTO POINTS FROM TIME OF COMPLETED INSTALLATION.
- 5) CONCLUSIONS: A GENERAL STATEMENT DESCRIBING WHETHER THE PERFORMANCE STANDARDS ARE BEING MET AND A BRIEF EXPLANATION IF THEY ARE NOT BEING MET, WITH REMEDIAL ACTIONS BEING TAKEN.

IF THE PERFORMANCE CRITERIA ARE MET, MONITORING FOR THE CITY WILL CEASE AT THE END OF YEAR FIVE, UNLESS OBJECTIVES ARE MET AT AN EARLIER DATE AND THE CITY ACCEPTS THE MITIGATION PROJECT AS SUCCESSFULLY

MONITORING METHODS

VEGETATION MONITORING METHODS MAY INCLUDE COUNTS; PHOTO-POINTS; RANDOM SAMPLING; SAMPLING PLOTS, QUADRATS, OR TRANSECTS; STEM DENSITY; VISUAL INSPECTION; AND/OR OTHER METHODS DEEMED APPROPRIATE BY THE CITY AND THE BIOLOGIST/ECOLOGIST. VEGETATION MONITORING COMPONENTS SHALL INCLUDE GENERAL APPEARANCE, HEALTH, MORTALITY, COLONIZATION RATES, PERCENT COVER, PERCENT SURVIVAL, VOLUNTEER PLANT SPECIES, AND INVASIVE WEED COVER.

PERMANENT VEGETATION SAMPLING PLOTS, QUADRATS, AND/OR TRANSECTS WILL BE ESTABLISHED AT SELECTED LOCATIONS TO ADEQUATELY SAMPLE AND REPRESENT ALL OF THE PLANT COMMUNITIES WITHIN THE MITIGATION PROJECT AREAS, THE NUMBER EXACT SIZE, AND LOCATION OF TRANSECTS, SAMPLING PLOTS, AND QUADRATS WILL BE DETERMINED AT THE TIME OF THE BASELINE ASSESSMENT.

PERCENT AREA COVER OF WOODY VEGETATION (FORESTED AND/OR PERCENT AREA COVER OF WOODY VEGETATION (FORESTED AND/OR SCRUB-SHRUB PLANT COMMUNITIES) WILL BE EVALUATED THROUGH THE USE OF POINT-INTERCEPT SAMPLING METHODOLOGY. USING THIS METHODOLOGY, A TAPE WILL BE EXTENDED BETWEEN TWO PERMANENT MARKERS AT EACH END OF AN ESTABLISHED TRANSECT. TREES AND SHRUBS INTERCEPTED BY THE TAPE WILL BE IDENTIFIED, AND THE INTERCEPT DISTANCE RECORDED. PERCENT COVER BY SPECIES WILL THEN BE CALCULATED BY ADDING THE INTERCEPT DISTANCES AND EXPRESSING THEM AS A TOTAL PROPORTION OF THE TAPE LENGTH.

THE ESTABLISHED VEGETATION SAMPLING LOCATIONS WILL BE MONITORED AND COMMONDED TO THE BASE HIS DATA DISTANCE AND BEAUTIONS OF THE MAINTAINE AND COMMONDED TO THE BASE HIS DATA DISTANCE AND BEAUTIONS WILL BE MONITORED AND COMMONDED TO THE BASE HIS DATA DISTANCE AND BEAUTIONS WILL BE MONITORED AND

THE ESTABLISHED VEGETATION SAMPLING LOCATIONS WILL BE MONITORED AND COMPARED TO THE BASELINE DATA DURING EACH PERFORMANCE MONITORING EVENT TO AID IN DETERMINING THE SUCCESS OF PLANT ESTABLISHMENT. PERCENT SURVIVAL OF SHRUBS AND TREES WILL BE EVALUATED IN A 10-FOOT-MIDE STRIP ALONG EACH ESTABLISHED TRANSECT. THE SPECIES AND LOCATION OF ALL SHRUBS AND TREES WITHIN THIS AREA WILL BE RECORDED AT THE TIME OF THE BASELINE ASSESSMENT AND WILL BE EVALUATED DURING EACH MONITORING EVENT TO DETERMINE PERCENT SURVIVAL.

PHOTO DOCUMENTATION

HOLO DOCUMENTATION

LOCATIONS MILL BE ESTABLISHED MITHIN THE MITIGATION AREAS FROM WHICH PANORAMIC PHOTOGRAPHS WILL BE TAKEN THROUGHOUT THE MONITORING PERIOD. THESE PHOTOGRAPHS WILL DOCUMENT GENERAL APPEARANCE AND RELATIVE CHANGES WITHIN THE PLANT COMMUNITIES. A REVIEW OF PHOTOS OVER TIME WILL PROVIDE A SEMI-GUANTITATIVE REPRESENTATION OF THE SUCCESS OF THE PLANTING PLANT. VEGETATION SAMPLING PLOTS AND PHOTO-POINT LOCATIONS WILL BE SHOWN ON A MAP AND SUBMITTED WITH THE BASEL NIE ACCEPTANT AT PLANTING PLANT. THE BASELINE ASSESSMENT REPORT AND YEARLY PERFORMANCE

WATER QUALITY AND SITE STABILITY

WATER QUALITY WILL BE ASSESSED QUALITATIVELY UNLESS IT IS EVIDENT THAT THERE IS A SERIOUS PROBLEM. IN SUCH AN EVENT, MATER QUALITY SAMPLES WILL BE TAKEN AND ANALYZED IN A LABORATORY FOR SUSPECTED PARAMETERS. QUALITATIVE ASSESSMENTS OF WATER QUALITY INCLUDE:

- · OIL SHEEN OR OTHER SURFACE FILMS.
- · ABNORMAL COLOR OR ODOR OF WATER,
- · STRESSED OR DEAD VEGETATION OR AQUATIC FAUNA.
- TURBIDITY, AND
- · ABSENCE OF AQUATIC FAUNA

OBSERVATIONS WILL BE MADE OF THE GENERAL STABILITY OF SOILS IN THE MITIGATION AREAS DURING EACH MONITORING EVENT. ANY EROSION OF SOILS OR SOIL SLUMPING WILL BE RECORDED AND CORRECTIVE MEASURES

> NOT FOR CONSTRUCTION THESE PLANS HAVE BEEN IBMITTED TO THE APPROPRIAT AGENCIES FOR REVIEW AND APPROVED, UNTIL APPROVED, THESE PLANS ARE: SUBJECT TO REVISION



SURVEY PROVIDED BY BUSH, ROED, 4 HITCHINGS INC., 2009 MINOR AVE E SEATTLE, NA 46102-3513, (206) 323-4144. SITE PLAN PROVIDED BY KPFF, 1601 5TH AVE SUITE 1600 SEATTLE, WA 48101,

- (206) 622-5822.
- SOURCE DRAWING WAS MODIFIED BY TALASAEA CONSULTANTS FOR VISUAL ENHANCEMENT.
- ENHANCEMENT. THIS PLAN IS AN ATTACHMENT TO THE CRITICAL AREAS REPORT PREPARED BY TALASAEA CONSULTANTS IN MAY, 2021.

Seattle, WA 98101 206.622.5822 www.kpff.com



HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



1595 NW GILMAN BLVD ISSAQUAH WA. 98027

EP. AO PRINCIPAL BS PROJECT MAN PROJECT ARCHITECT

ASDP/SSDP/SV **RESUBMITTAL**

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EP

DRAWN BY

REVISIONS			
No.	DATE	DESCRIPTION	
1 2 3 4 5	10/3/2019 4/1/2020 4/12/2021 9/8/2021 4/12/2022	30% CD ASDP ASDP REVISION #3 ASDP REVISION #3 ASDP/SSDP/SV	
	I	I	

"PERFORMANCE **MONITORING OBJECTIVES**

W5.0

ISSUE DATE 4/12/2021

DECLARATION OF SERVICE OF MAILING

I, BRIAN D. MOSS state and declare as follows:
That on the day of
Notice of Environmental Neighborhood meeting pro-19-00006; SHO21-00010 - HYLA Crossing stormwater Discharge - Vicinity MAP; Attached plans
I declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct. Signed on the 6 day of 2 day of 2021 at TSSAQVa Washington.
BHAN D. MOSS Printed Name British D. Moss Signature
a government

Notice of Environmental Neighborhood Meeting



PROJECT NAME: Hyla Crossing Stormwater Discharge

FILE NO: PRJ19-00006; SHO21-00010

APPLICANT: Kristi Tripple

1595 NW Gilman Blvd Ste 1

Issaquah, WA 98027

NEIGHBORHOOD MEETING INFORMATION

DATE: Tuesday October 19, 2021

TIME: 6:30 p.m.
LOCATION: Virtual Meeting

Join by Computer: <u>issaquahwa.gov/EnvironmentalImpact</u>

ENVIRONMENTAL NEIGHBORHOOD MEETING

The City is hosting a neighborhood meeting to afford the community an opportunity to understand the proposal with particular focus on critical areas, generate discussion, and raise issues before a decision is rendered. City Staff along with the Applicant's technical area experts will be in attendance to answer questions and address concerns about the project.

Required Studies to be discussed: Wetland Study, Mitigation Plan

PROJECT INFORMATION

Project Description: To construct a new pipeline that will convey stormwater from a new pump station to a nearshore outfall next to Lake Sammamish. The 24-inch pipeline will total approximately 2,897 linear feet long and convey water to Lake Sammamish, through a wetland in Sammamish Cove Park. Because the pipe alignment and outfall location do not meet the city's shoreline master Program, a Shoreline Variance is being sought. (See attached plans)

Location: Sammamish Cove Park (See Vicinity Map)

Size of Subject Area in Acres: 18.21 Acres

Required Permits: Shoreline Substantial Development, Shoreline

Variance, Right-of-Way, Flood Hazard

Required Studies: Critical Area Studies for wetlands

PUBLIC MEETING

- Input from the public will be documented in the permit file and used to finalize the critical area studies for the project. A summary of the meeting will be provided to the Environmental Board for their consideration related to future code changes.
- The decision, once rendered, is appealable.

Issaquah Municipal Code (IMC), Comprehensive Plan (Online at: issaquahwa.gov/codes and plans)

PUBLIC MEETING

Due to the Governor's Proclamation 20-28 related to the COVID-19 emergency and open public meetings, this meeting is being held remotely.

MEETING SIGN-UP

To view the meeting, go to

<u>issaquahwa.gov/EnvironmentalImpact</u> open the agenda and then follow these steps:

- 1. Enter attendee's name
- 2. Enter attendee's email address
- 3. Click Join Now

MEETING PACKET AND MATERIALS

A memorandum describing the critical areas of the site which will be discuss at the meeting are available by visiting the following: issaquahwa.gov/EnvironmentalImpact

PUBLIC COMMENT

Written comments are accepted until October 19, 2021, or until the decision is rendered:

Community Planning and Development Department P.O. Box 1307 Issaquah, WA 98027

Or by e-mail to the Project Planner noted below.

MORE PROJECT INFORMATION

Other key application documents are available at the City's website: issaquahwa.gov/development. Click on the parcel, select "View Related Documents and Permits", and then click on "Related Documents" tab to see the available submittals.

CONTINUED PUBLIC NOTIFICATION

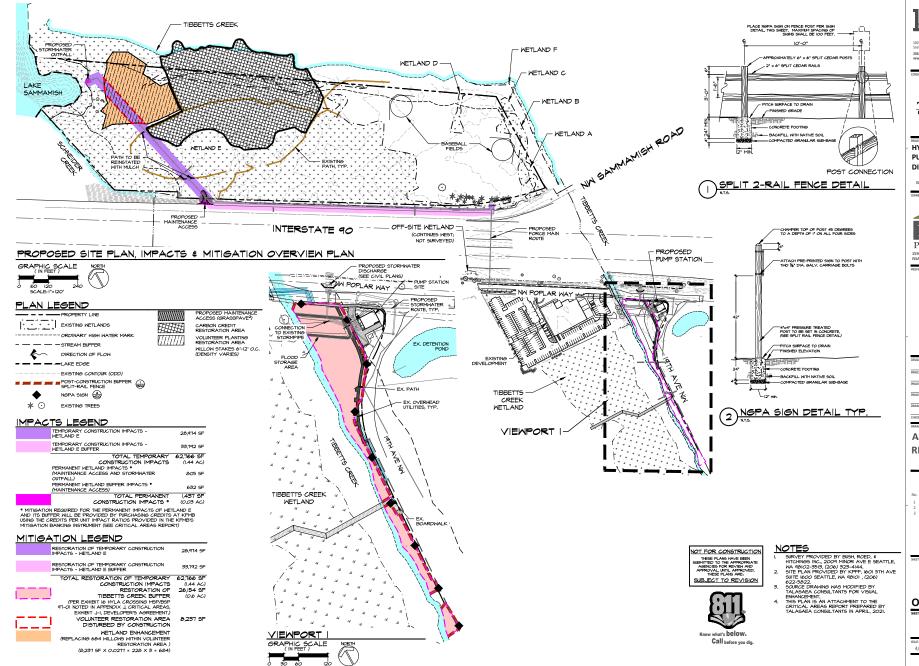
To receive further public notices on this project please provide your name, address, and e-mail to the Project Planner and request to become a Party of Record.

Notice is required to be provided to property owners within 300 feet of the site and to Parties of Record. Please share this notice with others in your neighborhood who may be interested in this project. Property owner, Mortgagee, Lien Holder, Vendor, Seller, etc., please share this notice with tenants and others who may be interested in this project.

CITY CONTACT INFORMATION

Project Planner:Doug YormickCommunity Planning & Development Department:Phone Number:425-837-3083Phone Number:425-837-3100

E-Mail: <u>dougy@issaquahwa.gov</u> E-Mail: <u>CPD@issaquahwa.gov</u>



Lpff

1601 5th Avenue, Suite 1600
Seattle, WA 98101

TALASAEA
CONSULTANTS, INC.
Revource and
Rantromental Planning

HYLA CROSSING
PUMPED STORMWATER
DISCHARGE

ISSAQUAH, WA



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ASDP

REVISION #1

SITE PLAN, IMPACTS & MITIGATION OVERVIEW PLAN

W2.0

4/12/2021

Page [0000]

CITY OF ISSAQUAH Environmental Neighborhood Meeting

6:30 PM
October 19, 2021

MEETING NOTES

Virtual Meeting

HYLA CROSSING PUMP STORMWATER DISCHARGE

Permit Numbers: SHO21-00010 Address: Sammamish Cove Park Parcel Numbers: 2024069070

APPLICANT & OTHERS PRESENT

Applicant and Team: Administration/Staff:

Kristi Tripple, Rowley Properties

Jennifer Marriott, PWS

Marty Chase, KPFF Consulting Engineers

Doug Yormick, Assistant Planner
Lucy Sloman, Land Dev. Manager
(Other non-presenting City staff)

Attendees/Speakers:

Jamie Brakken

Joe Decuir

Vo Lee

Jim Mackey

Connie Marsh

Scott Sheffield

(Other non-speaking attendees)

PURPOSE

The Community Planning and Development Department is hosting a meeting to allow the community an opportunity to understand the proposal with particular focus on critical areas and provide the City with thoughts and concerns before a decision is rendered. The applicant, along with technical experts, will be present to answer questions and address issues of interested members.

NEIGHBORHOOD MEETING ITEM

a) Hyla Crossing Pump Stormwater Discharge. The proposed new pipeline will convey stormwater from a new pump station to a near-shore outfall next to Lake Sammamish. The 24-inch pipeline will total approximately 2,897 linear feet long and convey water to Lake Sammamish through a wetland in Sammamish Cove Park. Because the pipe alignment and outfall location do not meet the standards set forth in the City's Shoreline Master Program, a Shoreline Variance is being sought.

Facilitated by:

Doug Yormick, Assistant Planner

Welcome/Introduction

<u>Yormick</u> opened the meeting at 6:32 PM. He introduced members of the applicant team and staff, and gave some guidelines for participating in tonight's neighborhood meeting.

Staff Presentation

<u>Yormick</u> explained the purpose of the meeting and gave an overview of the project and the permit process variance being considered. <u>Tripple</u> gave some background on Rowley's involvement with this project, including the original SEPA decision issued in 2012.

Marty Chase, KPFF, displayed diagrams and photos of the site and explained the proposed Hyla crossing location. This is part of the Rowley Master Agreement's drainage plan as submitted in the project's 2011 EIS and SEPA. He explained that the strategy for discharge being presented tonight and that requires a variance is the preferred strategy. He described the environmental benefits of the proposed project and why discharge is needed. The alignment shown is closer to Lake Sammamish (the Lake), and it offers more direct discharge. Other systems would require filling the site, pumping to Tibbetts Creek (the Creek), and so on. The near-shore outfall was chosen because it is the shortest route possible through the wetland. He showed additional depictions of the outfall location, bubble-up structure, high water line, and so on.

He continued other utilities are located in this area as well. There is no storm retention currently onsite. The bubble-up structure will produce clean water and after it comes online, will be used to treat new projects as well. The discharge will have no sediment or phosphorus, and will be treated to the latest Ecology manual standard.

<u>Jennifer Marriott, Professional Wetland Scientist,</u> showed a diagram of the area, including where temporary environmental impacts will occur. She noted that, where gravel removal and other impacts will take place, fresh soil will be placed and vegetation replanted, resulting in a more functional buffer compared to the existing buffer.

She explained that given the extensive wetlands already near the project and the proximity of the Keller Farm Mitigation Bank, using the mitigation bank was the best option to offset permanent wetland impacts. She gave more details about buying credits to offset impacts.

In answer to an attendee question, she said the Muckleshoot Tribe has been engaged in the discussions with the City, which have also included Ecology, EPA, Army Corps of Engineers, and State Fish and Wildlife. She noted the best available science has changed since the original SEPA and EIS were issued about ten years ago. Of all the alternatives, this alignment was the best location that all parties could support. She gave additional descriptions of the site and of the trees around the Lake shore. We tried to avoid impacts to substantially sized willow trees, she said, and confine impacts to shrubs and grass that are more easily replaced. She continued with a description of the temporary impacts, which, although well below the threshold of Corps requirements for mitigation, will be offset by the credit system she referred to earlier. The focus has been to offset temporary ground disturbances by relying on the best available science and restoring the ground to a better condition.

<u>Chase</u> added the trench to accommodate the pipe is shallow, and as a result construction will be quick. He clarified that the amount of water carried by the proposed pipe will release a range of 2,500 to 5,000 gallons per minute, which is a negligible amount of water ("a drop in the bucket") for a lake the size of Lake Sammamish. He added his understanding is that the level of water in the Lake is controlled at the far-north end of the Lake by the Army Corps of Engineers.

Receive Comments/Questions

<u>Jamie Brakken</u> said her home is the closest house to the proposed outflow, and she owns property on both sides of Schneider Creek. She said tonight she intended to share a 2020 photo of how high the water level of the Lake reached, which was about six feet above her dock. In

response to <u>Chase</u>'s comment about the Corps, she said the Corps has decertified the project and isn't doing anything about water levels in the Lake. She spoke against allowing Rowley to take on no water for its project and allowing them to put it in the Lake, which is already flooding. Now they want to buy credits and put water in a Lake that no longer drains. When Rowley pumps more water into the Lake, all of us residents have to absorb the added water so that Rowley can have a high-density project. Tell me why that is fair to residents; why should we absorb it so you can develop your property. We intend to sue.

<u>Tripple</u> said she understands the pressures and frustration being expressed; there are a lot of angry feelings. She continued the water onsite is already making its way to Lake Sammamish. She said the proposed alignment is an attempt to balance competing interests, given the geography of our community. She said we can't control the long-standing situation that exists with the Lake. The water on this property is already going into the Lake via dispersion, and our intent is not to make more water but to make better water that will be better for fish, the environment, and so on. We are trying to appease many voices, do the right thing here, and not take advantage of anyone.

<u>Marriott</u> described the applicable stormwater guidelines, which are developed from the best available science by Ecology, not the City. From our perspective, we try to look at the best solution for competing needs, but are also restricted by the framework within which we are working. This is a regional and watershed issue, not a single project issue, she said, and I feel your frustration.

<u>Chase</u> said the amount of water going into the Lake now is the same as after the project. The City's code and Ecology's stormwater manual prefer relieving runoff as much as possible from entering the Creek because the Creek can't handle it as well as the Lake.

<u>Tripple</u> said this is an emotional issue, and I understand your feelings and frustration. We do not want to flood anyone's home; that is not our intent, and our studies indicate that won't occur. We have been working on this for well over a decade. It is true that the Lake has some serious challenges.

Joe Decuir asked for clarification of the "drop in the bucket" comment made earlier. Chase replied the Lake is enormous, something like 283,000 acre feet, and explained how much water would go through the pipe as a result of the project. Decuir continued he would like more clarity on the volume of water this project would add to the Lake, and the speed with which it is released. He expressed concern about being able to get property insurance, and the effect on home values. We really need to exert region-wide pressure to improve Lake drainage. This group might be more tolerant of a variance if there was confidence that the Lake would actually drain. But we don't have that confidence.

Connie Marsh said visualizing a storm pipe into Lake Sammamish is always horrifying—flashing water through a pipe versus a natural infiltration system. She described the ways that water flows differ, and gave her perception of the possibility of disseminating stormwater through the Park to create a higher, better wetland system, which is not being considered. That would create some natural habitat and be a natural flow of water into the Lake. That seems like a far better solution for everyone, so why is it not on the table. The solution being presented is just a pipe. She continued it looks like some State park trees, City trees, and trees planted by Mountains to Sound Greenway volunteers will need to be removed. She said she doesn't think the delineations are up to date and do not take into consideration all the planting work that has been done in that area. She said she doesn't understand the mitigation to the Creek; the Creek

will be moved as part of another project, so how can anything that temporary be considered mitigation. The banking situation will result in improvements to the other end of the Lake when we have a massive park right there that needs mitigation. It seems inappropriate not to keep the mitigation resources in-house when they are so dramatically needed.

<u>Tripple</u> said she understands the concern about doing mitigation at the other end of the Lake when there is potential at the State park. We have been working with the code we have available to find the best solution. The proposal is to use the Keller Farm Mitigation Bank, which is outside the project boundaries. She described the improvements that would take place at the intersection of NW Poplar and 19th, which is a gravel area adjacent to the Creek that currently serves no function. Our intention is to restore that to a functioning buffer, creating a building block for the Greenway as a whole. Moving the Creek is part of a project that is not associated with this project, she added.

Marriott noted the proposed project does not go through any State park property; it is on Cityowned property only. She described the wetlands within the project area, and noted the Watershed Company did a third-party review of the proposed alignment. We are working through making responses to their questions and comments now. They did not question the alignment, she noted, and explained the issues they raised in their review. She gave additional details about how the credit bank will work. The Corps has clearly identified that using banks as mitigation is the preferable mitigation method, and part of our challenge is to achieve a balance with all of the agencies, including the Corps, that are involved with this project.

Marsh replied if your goal is to create a great environment for the City, you can take a pathway to mitigate locally. The Corps won't stop you. So the pathway to mitigate to the north is a choice. She said she'd like to see Rowley do the right thing, attenuate the flows, and discharge in a way that makes the City's water situation better. You have a choice here. She gave her perception of how the code applies, and said we are asking you to make this a better place for humans to live. We know you want to do that, but this misses the mark.

Marriott said she agrees with Marsh in a broad sense, but a dispersion trench would put water into the wetland, and it's a problem we have been working on for over a year. We have been working through State regulations to see how we could make a dispersion trench work, and after a year of work, have determined that Ecology could not support a dispersion trench as a stormwater dispersal method at this location. Ecology is working on updating its stormwater manual, but we don't know when any new information will be available to us. So the dispersion method is not a path we can follow. She said it is a general expectation that projects disturbing wetlands will offset those impacts with wetland creation, but we can't do that with this site. She said it doesn't make sense to disturb the forested areas along the Creek, and that's why the focus is on enhancement plantings and mitigation offsite. She said someone noted in public comment that the mitigation in the Keller Farm Mitigation Bank will put more water into the Lake. She described the Keller Farm property as having previously been farmland. It is a viable concern, but beyond the scope of any one project.

<u>Tim Mackey</u> said the presenters tonight have talked about following the process, but the City is requesting a variance and having people comment is part of the process. He said his comments will focus on the issues that are impacting residents around the Lake that haven't been addressed. He said projects like Rowley's are designed as though Lake Sammamish is infinite, but it isn't. He said he has been working on Lake flooding issues since at least 2009, and has the charts to show that that flood control is worsening. We are frustrated because the process is broken. The Lake lacks the capacity to take on the volume of water this project will generate

and be dispersed in a 24-inch pipeline, and you can't separate volume from the timing of releasing that water. The presenters haven't given us information about the amount of outflow into the Lake. It is not "a drop in the bucket." It's a drop that keeps coming. We are concerned because flooding and high water levels are impacting our properties directly. In 2020, storms created about \$20 million in damage to properties around the Lake, and now we are having to fight having yet more water coming into the Lake. We are being told there are no alternatives here. We appreciate good things like treating the water and improving wetlands, but what is being done to control the volume and timing of more water flowing into the Lake. You have to allow more water to leave the Lake in order to balance out having six percent more water coming in. Show me that.

Marriott said it isn't new stormwater, it's water already going into the Lake. This just shuffles how the water gets there. Mackey replied peak flows are the issue; how fast water gets from where it is to where it is going. If you could work on that, and get the County to allow six percent more water to flow out of the Lake, then we could probably be okay with the project. Get the same amount of water coming in to go out, every day, all day, all winter. That's what we need. The presentation was about mitigation, and not the inflow issue. Make water flow out at the same speed as water flowing in. It's a timing issue. Also, get the weirs lowered in winter. That way instead of Lake water levels being too high when flooding conditions exist, the water level will start at two feet under our docks and can accommodate water coming into the Lake.

<u>Marriott</u> said some of your comments are outside this project and the City's jurisdiction. What would support look like to you, she asked. <u>Mackay</u> said the City needs to lobby the County to do its job, to remove sediment in the transition zoning, and to allow for adjustable, dynamic weirs. Bear Creek has tripled its flow, and is making the problem worse. All we hear is "it's outside our boundary" and "not our problem." <u>Marriott</u> said she can sympathize; it is a Puget Sound-wide problem.

<u>Mackay</u> continued the Lake water level could be lowered by two feet when it wasn't flood season, and the City could put some pressure on the County to solve this issue. So far we cannot get the County to take any action, so our only choice is to go to every jurisdiction that wants to put more water into the Lake and say "no." The public process is intended to identify unintended consequences by listening to the public, and every homeowner on the Lake has had negative consequences and effects when more water has been added to the Lake. The Corps has said the County is out of compliance, needs to do more maintenance, remove old brush, etc., so the Corps is on our side. The County is not doing its job, and we need some pressure to be put on them. This needs to be fixed immediately. Until then, we are in the position of having to block any project that could mean more water coming into the Lake.

Scott Sheffield said he is a long-term Lake resident with lots of knowledge and experience on this issue. He requested that the City actually meet with Lake residents so that residents can put together a bullet-point presentation of issues as we see them. On the flooding issue, he continued, he thinks of the 24-inch pipe as a freeway that would direct water into the Lake, unlike a natural dispersion system. Residents have to upgrade our houses to meet current code, he continued, and this project should be required to meet better requirements for water control, not what was in an agreement made many years ago. We have to build to new requirements, and so should Rowley. The outfall will be more costly in the long run than helping Rowley figure out how to retain some of its water from this project onsite. He said he agrees with Mackay that this needs to be brought to the County's attention; it is a bigger issue than just a City issue. He said he heard some comments made by the presenters tonight about the high-water mark at the Lake in recent years that are not correct, and he has information to share on that. Essentially

you are asking us to help you bear the costs of this project in multiple ways. We need continued conversations about this, he said, as he has a lot more points to cover. He added he is surprised to hear that Ecology is okay with this.

Wrap-Up

<u>Yormick</u> thanked participants and outlined the next steps in the review process. He described how residents and interested parties can stay informed and be a party of record for the project.

ADJOURN

Yormick closed the meeting at 8:27 PM.

Respectfully submitted,

Susan Lowe Recording Secretary

Exhibit 6

Doug Yormick

From: Doug Yormick

Sent: Monday, September 27, 2021 2:22 PM

To: adrebin346@gmail.com

Subject: RE: Hyla Crossing and Rowley Center Project

Anne

Thank you for taking the time to provide a public comment on the proposed stormwater pumpstation. I'll provide you with some information about the pump station and the treatment the water will receive prior to discharge into Lake Sammamish. The Notice of Decision will consolidate and provide responses to the comments we receive. We will also forward your comments to the Applicant for a response from them.

The comment period stated on the Notice of Application 1) encourages the public to submit their comments early in the process and 2) ensures that there is a period in which comments may be submitted and no decision will be issued. However, we may not be prepared to issue the decision at the close of the comment period. We accept comments until the decision is issued, though we prefer comments sooner so that we have sufficient time to take them under consideration. Additionally, there will be a neighborhood environmental meeting to hear more details about the proposal and provide additional comments.

The stormwater will be treated prior to discharge to Lake Sammamish to Department of Ecology standards for stormwater. The treatment process will remove many common pollutants, including phosphorous from pollution generating sources such as parking lots and roadways. I can put you in touch with one of our review engineers who can describe the treatment process in much better detail than I just described. Currently untreated stormwater flows into our waterways, mainly Tibbets Creek prior to discharge into Lake Sammamish. The proposed method should eliminate any pollution concerns.

Despite the pumpstation being constructed by Rowley Properties the ownership and maintenance responsibility will be transferred to the City upon completion. This public/private partnership was negotiated as part of Rowley's Development Agreement with the City in the early 2010's. Our Public Works staff will be tasked with periodic maintenance of the building, discharge pipe, and outfall to ensure everything is in great condition.

Other alternatives were explored during the development of the Rowley's Development Agreement, including onsite detention. The detention pond was determined to not be feasible due to the enormous size of the pond and site constraints. Discharging to a wetland would cause a different set of issues, such as flow control during a rain event and disrupting the delicate hydrology of the wetland and/or nearby streams. In the end the Mater Drainage Plan outlined in the Rowley Development Agreement identified direct discharge of treated stormwater as the preferred method. More information regarding the history and method will be better outlined in the subsequent Neighborhood Environmental Meeting.

If you'd like to remain engaged throughout the process you can become a party of record. Being a party of record ensures you are kept up to date with any decisions that are made about this project in the future. You can also look at our active projects map where I'll post any new documents that are pertinent for the review. If you'd like to be a party of record just respond to this email stating those intentions.

Thank you again for providing public comment for this project. It's engaged residents that keep our City beautiful and lively, while holding everyone involved accountable. I truly appreciate it.

Doug Yormick

Assistant Planner | Community Planning and Development 1775 12th Ave NW Issaquah, WA 98027 425.837.3083 dougy@issaquahwa.gov

From: adrebin346@gmail.com <adrebin346@gmail.com>

Sent: Saturday, September 25, 2021 5:39 PM **To:** Doug Yormick <DougY@issaquahwa.gov> **Subject:** Hyla Crossing and Rowley Center Project

Hello – I understand Rowley Properties is seeking a variance for stormwater runoff from their Hyla Crossing project. Even though I'm not an Issaquah resident, I live very close to Lake Sammamish and very much oppose the granting of this variance. This area is the habitat for some amazing birds and fish, including spawning salmon. Please do the environmentally correct thing and deny this variance.

Thank you! -Anne

From: Doug Yormick

Sent: Monday, September 27, 2021 2:23 PM

To: Albert Ting 7070

Subject: RE: Install Pump station and force main in lieu of detention for Hyla

Albert,

Thank you for taking the time to provide a public comment on the proposed stormwater pumpstation. I'll provide you with some information about the pump station and the treatment the water will receive prior to discharge into Lake Sammamish. The Notice of Decision will consolidate and provide responses to the comments we receive. We will also forward your comments to the Applicant for a response from them.

The comment period stated on the Notice of Application 1) encourages the public to submit their comments early in the process and 2) ensures that there is a period in which comments may be submitted and no decision will be issued. However, we may not be prepared to issue the decision at the close of the comment period. We accept comments until the decision is issued, though we prefer comments sooner so that we have sufficient time to take them under consideration. Additionally, there will be a neighborhood environmental meeting to hear more details about the proposal and provide additional comments.

The stormwater will be treated prior to discharge to Lake Sammamish to Department of Ecology standards for stormwater. The treatment process will remove many common pollutants, including phosphorous from pollution generating sources such as parking lots and roadways. I can put you in touch with one of our review engineers who can describe the treatment process in much better detail than I just described. Currently untreated stormwater flows into our waterways, mainly Tibbets Creek prior to discharge into Lake Sammamish. The proposed method should eliminate any pollution concerns.

Despite the pumpstation being constructed by Rowley Properties the ownership and maintenance responsibility will be transferred to the City upon completion. This public/private partnership was negotiated as part of Rowley's Development Agreement with the City in the early 2010's. Our Public Works staff will be tasked with periodic maintenance of the building, discharge pipe, and outfall to ensure everything is in great condition.

Other alternatives were explored during the development of the Rowley's Development Agreement, including onsite detention. The detention pond was determined to not be feasible due to the enormous size of the pond and site constraints. Discharging to a wetland would cause a different set of issues, such as flow control during a rain event and disrupting the delicate hydrology of the wetland and/or nearby streams. In the end the Mater Drainage Plan outlined in the Rowley Development Agreement identified direct discharge of treated stormwater as the preferred method. More information regarding the history and method will be better outlined in the subsequent Neighborhood Environmental Meeting.

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Thank you again for providing public comment for this project. It's engaged residents that keep our City beautiful and lively, while holding everyone involved accountable. I truly appreciate it.

Doug Yormick

Assistant Planner | Community Planning and Development 1775 12th Ave NW Issaquah, WA 98027 425.837.3083 dougy@issaquahwa.gov

From: Albert Ting 7070 <alt7070@hotmail.com>
Sent: Saturday, September 25, 2021 8:42 PM
To: Doug Yormick <DougY@issaquahwa.gov>

Subject: Install Pump station and force main in lieu of detention for Hyla

Hi, can you give me more info about this?

Why would they want a pump station in lieu of detention?

Is the environmental impact of a code compliant solution (with no variance) better than one with the variance?

Thx, AlbertT

From: Doug Yormick

Sent: Monday, September 27, 2021 2:24 PM

To: Joni Vanderburg-Paner

Subject: RE: Pumping overflow into lake Sammamish

Joni,

Thank you for taking the time to provide a public comment on the proposed stormwater pumpstation. I'll provide you with some information about the pump station and the treatment the water will receive prior to discharge into Lake Sammamish. The Notice of Decision will consolidate and provide responses to the comments we receive. We will also forward your comments to the Applicant for a response from them.

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Thank you again for providing public comment for this project. It's engaged residents that keep our City beautiful and lively, while holding everyone involved accountable. I truly appreciate it.

From: Joni Vanderburg-Paner <joni.vanderburg@gmail.com>

Sent: Monday, September 27, 2021 10:13 AM

To: kristit@rowleyproperties.com

Cc: Doug Yormick < DougY@issaquahwa.gov>

Subject: Re: Pumping overflow into lake Sammamish

Resending with correct email for Doug.

On Mon, Sep 27, 2021 at 10:10 AM Joni Vanderburg-Paner < joni.vanderburg@gmail.com > wrote:

Rowley Properties,

It sounds like your new development will allow ground water runoff to go directly into Lake Sammamish. Is this correct? If so, this is a horrible plan. Take responsibility for your mess and create your own detention pond or artificial wetland that will clean the water before it goes back into our fragile ecosystems. The area you are proposing to dump water is habitat to fish and herons. I am expecting a response to address this. Thank you.

CC Doug Yormick, please look into this.

Joni Vanderburg-Paner 206.877.3379

From: Doug Yormick

Sent: Friday, September 24, 2021 3:28 PM

To: Young Soo Kim

Subject: RE: Rowley Properties Hyla Crossing

Young,

Thank you for taking the time to provide a public comment on the proposed stormwater pumpstation. I'll provide you with some information about the pump station and the treatment the water will receive prior to discharge into Lake Sammamish. Additionally, there will be a public meeting scheduled for this project in the coming weeks. If you received a notice of application, you'll also receive a notice for the public meeting.

The stormwater will be treated prior to discharge to Lake Sammamish. The treatment process will remove many common pollutants, including phosphorous from pollution generating sources such as parking lots and roadways. I can put you in touch with one of our review engineers who can describe the treatment process in much better detail than I just described. Currently untreated stormwater flows into our waterways, mainly Tibbets Creek prior to discharge into Lake Sammamish. The proposed method should eliminate you pollution concerns.

I will forward you comment to the applicant for a formal response. Your comment will be addressed in the staff report for this project.

If you'd like to remain engaged throughout the process you can become a party of record. Being a party of record ensures you are kept up to date with any decisions that are made about this project in the future. You can also look at our active projects map where I'll post any new documents that are pertinent for the review. If you'd like to be a party of record just respond to this email stating those intentions.

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Doug Yormick

Assistant Planner | Community Planning and Development 1775 12th Ave NW Issaquah, WA 98027 425.837.3083 dougy@issaquahwa.gov



From: Young Soo Kim <emailyoungsoo@yahoo.com>

Sent: Friday, September 24, 2021 3:05 PM
To: Doug Yormick <DougY@issaquahwa.gov>
Subject: Rowley Properties Hyla Crossing

Please don't let this development dump polluted water into the lake. Our kids swim there... Please...

Thank you for doing the right thing for the residence of this area that you are protecting.

Young

From: Doug Yormick

Sent: Wednesday, September 29, 2021 8:46 AM

To: blacknugget@mac.com

Subject: RE: Hyla Crossing Stormwater Discharge

Kyle,

Thank you for taking the time to provide a public comment on the proposed stormwater pumpstation. I'll provide you with some information about the pump station and the treatment the water will receive prior to discharge into Lake Sammamish. Additionally, there will be a public meeting scheduled for this project in the coming weeks. You'll receive a meeting notice with instructions for the public meeting.

The stormwater will be treated prior to discharge to Lake Sammamish. The treatment process will remove sediment and pollutants, including phosphorous from pollution generating sources such as parking lots and roadways. I can put you in touch with one of our review engineers who can describe the treatment process in much better detail than I just described. Currently untreated stormwater flows into our waterways, mainly Tibbets Creek prior to discharge into Lake Sammamish. The proposed method should eliminate pollution concerns.

I will forward you comment to the applicant for a formal response. Your comment will be addressed in the staff report for this project. More information about the project will be discussed at the upcoming neighborhood meeting.

Providing public comment, you'll automatically be added to our party of record list. Being a party of record ensures you are kept up to date with any decisions that are made about this project in the future. You can also look at our active projects map where I'll post any new documents that are pertinent for the review.

Thank you again for providing public comment for this project. It's engaged residents that keep our City beautiful and lively, while holding everyone involved accountable. I truly appreciate it.

Doug Yormick

Assistant Planner | Community Planning and Development 1775 12th Ave NW Issaquah, WA 98027 425.837.3083 dougy@issaquahwa.gov



From: blacknugget@mac.com <blacknugget@mac.com>

Sent: Tuesday, September 28, 2021 2:25 PM **To:** Doug Yormick <DougY@issaquahwa.gov> **Subject:** Hyla Crossing Stormwater Discharge

File Number: SH021-00010

Mr Yormick:

I reside at 5220 NW Sammamish Road and received the notice of application for the Hyla Crossiong Stormwater

Discharge.

I am writing to you in opposition of this proposal.

Our small cove already has a lot of sediment from the current outflows from new development and outflows from Schneider Creek. Also, the WSDOT is currently looking at adding additional drainage to our cove by removing smaller culvert pipes and re-routing water to the same area. Our dock already goes completely under water each year. Stormwater should be sent to a wetland or other spongy area rather than directly dumped into the lake. The area directly across from our property on I-90 used to have a large wetland to absorb some of this water, but it is quickly disappearing as more development occurs.

If this project does continue, I would at least suggest exiting the pipe around the corner about 200' to the East where residences would not be impacted as much, but the large outflow in the winter would impact us greatly.

Please add me as a Party of Record for this project.

Kyle Buckner 5220 NW Sammamish Road Issaquah, WA 98027 blacknugget@mac.com

From: Doug Yormick

Sent: Wednesday, September 29, 2021 8:47 AM

To: Sam Elder

Subject: RE: SHO21-00010

Sam,

Thank you for taking the time to provide a public comment on the proposed stormwater pumpstation. I'll provide you with some information about the pump station and the treatment the water will receive prior to discharge into Lake Sammamish. Additionally, there will be a public meeting scheduled for this project in the coming weeks. You'll receive a meeting notice with instructions for the public meeting.

The stormwater will be treated prior to discharge to Lake Sammamish. The treatment process will remove sediment and pollutants, including phosphorous from pollution generating sources such as parking lots and roadways. I can put you in touch with one of our review engineers who can describe the treatment process in much better detail than I just described. Currently untreated stormwater flows into our waterways, mainly Tibbets Creek prior to discharge into Lake Sammamish. The proposed method should eliminate pollution concerns.

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Doug Yormick

Assistant Planner | Community Planning and Development 1775 12th Ave NW Issaquah, WA 98027 425.837.3083 dougy@issaquahwa.gov



From: Sam Elder <sam@samelderlaw.com> Sent: Tuesday, September 28, 2021 3:01 PM

To: Doug Yormick <DougY@issaquahwa.gov>; CPD [External] <cpd@issaquahwa.gov>

Subject: SHO21-00010

I am writing to provide a public comment related to the Hyla Crossing Stormwater Discharge, Project # SHO21-00010. I have three concerns:

1. The particular area of the lake where the stormwater would be discharged has very little circulation, which is largely caused by a lot of millfoil buildup in this cove. It seems like the discharge should be in an area where

the water circulates better. There is a lot of millfoil in the area which tends to trap things down in this cove. The drainage should be located elsewhere, or the millfoil in the area should be mitigated.

- 2. This particular area has some of the best fishing on the lake. I am concerned that the discharge may affect the fish and fishing.
- 3. This area is pretty shallow. It seems like you could find a better location for the discharge where it is deeper with better circulation.

Sam Elder Law Office of Sam Elder PLLC 5170 NW Sammamish Road Issaquah, WA 98027 425-999-8170 phone 425-999-8172 fax

From: Doug Yormick

Sent: Wednesday, September 29, 2021 8:47 AM

To: Jamie Brakken; CPD [External]

Subject: RE: Hyla Crossing Stormwater Discharge - SHO21-00010

Jamie,

Thank you for taking the time to provide a public comment on the proposed stormwater pumpstation. I'll provide you with some information about the pump station and the treatment the water will receive prior to discharge into Lake Sammamish. Additionally, there will be a public meeting scheduled for this project in the coming weeks. You'll receive a meeting notice with instructions for the public meeting.

The stormwater will be treated prior to discharge to Lake Sammamish. The treatment process will remove sediment and pollutants, including phosphorous from pollution generating sources such as parking lots and roadways. I can put you in touch with one of our review engineers who can describe the treatment process in much better detail than I just described. Currently untreated stormwater flows into our waterways, mainly Tibbets Creek prior to discharge into Lake Sammamish. The proposed method should eliminate pollution concerns.

I will forward you comment to the applicant for a formal response. Your comment will be addressed in the staff report for this project. More information about the project will be discussed at the upcoming neighborhood meeting.

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Doug Yormick

Assistant Planner | Community Planning and Development 1775 12th Ave NW Issaquah, WA 98027 425.837.3083 dougy@issaquahwa.gov



From: Jamie Brakken <jamiebrakken@gmail.com> Sent: Tuesday, September 28, 2021 3:05 PM

To: Doug Yormick <DougY@issaquahwa.gov>; CPD [External] <cpd@issaquahwa.gov>

Subject: Hyla Crossing Stormwater Discharge - SHO21-00010

Hello,

We reside at 5230 NW sammamish Rd, Issaquah WA. Regarding the proposed drainage for Hyla Crossing - We object to the Shoreline Variance that is being sought.

- 1. Why wasn't the Tibbetts Creek location permitted, and why did it fail to meet Shoreline Master Program requirements? Why should a variance be allowed in a different and more vulnerable location?
- 2. The proposed location is in an enclosed cove that is already filled with silt and also noxious aquatic vegetation, putting the ecosystem here under tremendous stress. Adding runoff water from buildings and parking lots, no matter how hard you would like to represent that it is "cleaned" prior to entering the lake, will result in further stress, damage and flooding.
- 3. The wetlands area that is across I-90 has been allowed to develop, by you City of Issaquah, and so we have lost a source of pervious surface for runoff filtration and absorption.
- 4. You are now allowing Hyla Crossing to degrade this further. Surely there is a portion of the land on the Rowley property that can be used as a natural detention pond prior to moving downstream. If not, the project should not be allowed to move forward.
- 5. WSDOT is engaged in a culvert project at this location to re-engage a healthy salmon spawning environment at Schneider Creek. You would be also adding more water to this same place, and possibly unhealthy water to this place.
- 6. As a board Member on Washington Sensible Shorelines, I am acutely aware of flooding issues on this lake, and the City of Issaquah's participation in many of the causes. Lakefront homeowners, during the highest rain months are experiencing unprecedented flooding as our lake fills with silt and excess unregulated runoff. You will be allowing even more, by not requiring applicant to preserve a portion of their own property for the runoff. Lake Sammamish does not have an endless capacity to take on more stormwater.
- 7. Early review of Hyla Crossing brought promises that the stormwater discharge would be over by the state park, and prior to that, run into the lake along the bottom to a minimum depth of 12 feet of water prior to discharge. Now you are draining at the water's edge in a sensitive area.

Please acknowledge receipt of this email, and respond. Stop the insanity please,

Regards,
William and Jamie Brakken



Jamie Brakken

Managing Broker - RSVP Real Estate Direct: (425) 829-7527 Fax: (425) 837-3827

Email: <u>jamiebrakken@gmail.com</u>
Website: <u>www.northwestsold.com</u>

From: Doug Yormick

Sent: Thursday, September 30, 2021 3:18 PM

To: Brad Del Matto

Subject: RE: SHO21-00010 Hyla Stormwater Pumpstation

Brad,

Thank you for taking the time to provide a public comment on the proposed stormwater pumpstation. I'll provide you with some information about the pump station and the treatment the water will receive prior to discharge into Lake Sammamish. Additionally, there will be a public meeting scheduled for this project in the coming weeks. You'll receive a meeting notice with instructions for the public meeting.

The stormwater will be treated prior to discharge to Lake Sammamish. The treatment process will remove sediment and pollutants, including phosphorous from pollution generating sources such as parking lots and roadways. I can put you in touch with one of our review engineers who can describe the treatment process in much better detail than I just described. Currently untreated stormwater flows into our waterways, mainly Tibbets Creek prior to discharge into Lake Sammamish. The proposed method should eliminate pollution concerns.

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Doug Yormick

Assistant Planner | Community Planning and Development 1775 12th Ave NW Issaquah, WA 98027 425.837.3083



From: Brad Del Matto

Sent: Wednesday, September 29, 2021 8:22 PM

To: Doug Yormick <DougY@issaquahwa.gov>

Subject: 1875 POPLAR LOT LINE ADJUSTMENT

I am writing in regards to the Rowley Properties stormwater drainage pipe permit. I understand it failed to pass the City Shoreline Management standards., and now Rowley is seeking a variance.

Lake Sammamish water quality to sustain fish and wildlife has suffered do to the amount of unfiltered drainage running into the Lake. It is up to the governments surrounding the Lake to not allow developers to dump untreated stormwater into the Lake. Treating the stormwater runoff is simply a cost of development and allowing a variance enriches and encourages developers to skirt environmental standards.

Thanks for listening,

Brad Del Matto 161 E. Lake Sammamish Shore Lane NE Sammamish

From: Doug Yormick

Sent: Thursday, September 30, 2021 3:52 PM

To: atberns@gmail.com

Subject: RE: Opposition to the Hyla Crossing Stormwater Discharge

Adam,

Thank you for taking the time to provide a public comment on the proposed stormwater pumpstation. Notification went out to properties within 300 feet of the subject property using the information our system gathers from King County. I'll provide you with some information about the pump station and the treatment the water will receive prior to discharge into Lake Sammamish. Additionally, there will be a public meeting scheduled for this project in the coming weeks. You'll receive a meeting notice with instructions for the public meeting.

The stormwater will be treated prior to discharge to Lake Sammamish. The treatment process will remove sediment and pollutants, including phosphorous from pollution generating sources such as parking lots and roadways. I can put you in touch with one of our review engineers who can describe the treatment process in much better detail than I just described. Currently untreated stormwater flows into our waterways, mainly Tibbets Creek prior to discharge into Lake Sammamish. The proposed method should eliminate pollution concerns.

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Doug Yormick

Assistant Planner | Community Planning and Development 1775 12th Ave NW Issaquah, WA 98027 425.837.3083 dougy@issaquahwa.gov



From: atberns@gmail.com <atberns@gmail.com> Sent: Thursday, September 30, 2021 3:20 PM

To: Doug Yormick <DougY@issaquahwa.gov>; CPD [External] <cpd@issaquahwa.gov>

Cc: 'alessandra berns' <alessanp1@hotmail.com>; atberns@gmail.com

Subject: Opposition to the Hyla Crossing Stormwater Discharge

File Number: SH021-00010

Mr Yormick,

My family resides at 5152 NW Sammamish Road. Our neighbors received the notice of application for the Hyla Crossing Stormwater Discharge. Though you failed to notify us, I am writing in strong opposition of this proposal.

Eagle Cove is transforming before our eyes and is being destroyed by the sediment from the existing outflows from the new developments and from Schneider Creek. As our neighbors will attest, our docks and properties now go completely underwater each year which has damaged our property, our approved docks and our boat lift mechanisms. The fact that you are even considering dumping more stormwater directly into the lake and next to our property and a super popular park is baffling and concerning. You need to send the storm water to an area 200 feet to the east and dump it in marshy wetlands to absorb and minimize the impact.

Please add me as a Party of Record for this project.

Adam T. Berns 5152 NW Sammamish Road Issaquah, WA 98027 atberns@gmail.com

From: Doug Yormick

Sent: Monday, September 27, 2021 2:08 PM

To: Ed Mills

Subject: RE: Rowley Properties stormwater drainage permit

Ed,

Thank you for taking the time to provide a public comment on the proposed stormwater pumpstation. I'll provide you with some information about the pump station and the treatment the water will receive prior to discharge into Lake Sammamish. The Notice of Decision will consolidate and provide responses to the comments we receive. We will also forward your comments to the Applicant for a response from them.

The comment period stated on the Notice of Application 1) encourages the public to submit their comments early in the process and 2) ensures that there is a period in which comments may be submitted and no decision will be issued. However, we may not be prepared to issue the decision at the close of the comment period. We accept comments until the decision is issued, though we prefer comments sooner so that we have sufficient time to take them under consideration. Additionally, there will be a neighborhood environmental meeting to hear more details about the proposal and provide additional comments.

The stormwater will be treated prior to discharge to Lake Sammamish. The treatment process will remove many common pollutants, including phosphorous from pollution generating sources such as parking lots and roadways. I can put you in touch with one of our review engineers who can describe the treatment process in much better detail than I just described. Currently untreated stormwater flows into our waterways, mainly Tibbets Creek prior to discharge into Lake Sammamish. The proposed method should eliminate any pollution concerns.

Despite the pumpstation being constructed by Rowley Properties the ownership and maintenance responsibility will be transferred to the City upon completion. This public/private partnership was negotiated as part of Rowley's Development Agreement with the City in the early 2010's. Our Public Works staff will be tasked with periodic maintenance of the building, discharge pipe, and outfall to ensure everything is in great condition.

If you'd like to remain engaged throughout the process you can become a party of record. Being a party of record ensures you are kept up to date with any decisions that are made about this project in the future. You can also look at our active projects map where I'll post any new documents that are pertinent for the review. If you'd like to be a party of record just respond to this email stating those intentions.

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Doug Yormick
Assistant Planner | Community Planning and Development
1775 12th Ave NW
Issaquah, WA 98027
425.837.3083
dougy@issaquahwa.gov

----Original Message-----

From: Ed Mills < EdM@kidem.org>

Sent: Friday, September 24, 2021 6:36 PM To: Doug Yormick < Doug Y@issaquahwa.gov>

Subject: Rowley Properties stormwater drainage permit

Please ensure that the Rowley Properties stormwater drainage permit passes the City Shoreline Management standards.

A pumped sulution without permanent maintenace is a recipe for eventual failure without a clear line of responsibility.

Thanks,

Ed Mills

From: Doug Yormick

Sent: Monday, September 27, 2021 2:20 PM

To: Suzanne Marston

Subject: RE: Pollution and Stormwater into Lake Sammamish- Rowley Properties Hyla Crossing.

Suzzane,

Thank you for taking the time to provide a public comment on the proposed stormwater pumpstation. I'll provide you with some information about the pump station and the treatment the water will receive prior to discharge into Lake Sammamish. The Notice of Decision will consolidate and provide responses to the comments we receive. We will also forward your comments to the Applicant for a response from them.

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The stormwater will be treated prior to discharge to Lake Sammamish to Department of Ecology standards for stormwater. The treatment process will remove many common pollutants, including phosphorous from pollution generating sources such as parking lots and roadways. I can put you in touch with one of our review engineers who can describe the treatment process in much better detail than I just described. Currently untreated stormwater flows into our waterways, mainly Tibbets Creek prior to discharge into Lake Sammamish. The proposed method should eliminate any pollution concerns.

Despite the pumpstation being constructed by Rowley Properties the ownership and maintenance responsibility will be transferred to the City upon completion. This public/private partnership was negotiated as part of Rowley's Development Agreement with the City in the early 2010's. Our Public Works staff will be tasked with periodic maintenance of the building, discharge pipe, and outfall to ensure everything is in great condition.

Other alternatives were explored during the development of the Rowley's Development Agreement, including onsite detention. The detention pond was determined to not be feasible due to the enormous size of the pond and site constraints. Discharging to a wetland would cause a different set of issues, such as flow control during a rain event and disrupting the delicate hydrology of the wetland and/or nearby streams. In the end the Mater Drainage Plan outlined in the Rowley Development Agreement identified direct discharge of treated stormwater as the preferred method. More information regarding the history and method will be better outlined in the subsequent Neighborhood Environmental Meeting.

If you'd like to remain engaged throughout the process you can become a party of record. Being a party of record ensures you are kept up to date with any decisions that are made about this project in the future. You can also look at our active projects map where I'll post any new documents that are pertinent for the review. If you'd like to be a party of record just respond to this email stating those intentions.

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Assistant Planner | Community Planning and Development 1775 12th Ave NW Issaquah, WA 98027 425.837.3083 dougy@issaquahwa.gov

From: Suzanne Marston <smarston7@comcast.net> Sent: Saturday, September 25, 2021 9:14 AM

To: Doug Yormick <DougY@issaquahwa.gov>

Subject: Pollution and Stormwater into Lake Sammamish-Rowley Properties Hyla Crossing.

Please do not allow a variance on this stormwater drainage. We need to protect our environment!

The Rowley Properties stormwater drainage pipe permit from their big development across I-90 into Lake Sammamish failed to pass the City Shoreline Management standards. Now they are seeking a variance. This time in a new and worse location, into a small cove that is habitat for juvenile salmon and other species including Heron, freshwater clams and various fish species. This location is a main pathway to salmon spawning over at Issaquah Creek. water could drain into a detention pond they create on their own property or into Issaquah's wetland field, but neither wants to sacrifice their land, so it is proposed to pump it almost 3000' feet and dump it into lake Sammamish. This includes water from roof tops, gutters, parking lots.

From: Doug Yormick

Sent: Monday, September 27, 2021 2:21 PM

To: Julia Spangler **Subject:** RE: Rowley water

Julia,

Thank you for taking the time to provide a public comment on the proposed stormwater pumpstation. I'll provide you with some information about the pump station and the treatment the water will receive prior to discharge into Lake Sammamish. The Notice of Decision will consolidate and provide responses to the comments we receive. We will also forward your comments to the Applicant for a response from them.

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Despite the pumpstation being constructed by Rowley Properties the ownership and maintenance responsibility will be transferred to the City upon completion. This public/private partnership was negotiated as part of Rowley's Development Agreement with the City in the early 2010's. Our Public Works staff will be tasked with periodic maintenance of the building, discharge pipe, and outfall to ensure everything is in great condition.

Other alternatives were explored during the development of the Rowley's Development Agreement, including onsite detention. The detention pond was determined to not be feasible due to the enormous size of the pond and site constraints. Discharging to a wetland would cause a different set of issues, such as flow control during a rain event and disrupting the delicate hydrology of the wetland and/or nearby streams. In the end the Mater Drainage Plan outlined in the Rowley Development Agreement identified direct discharge of treated stormwater as the preferred method. More information regarding the history and method will be better outlined in the subsequent Neighborhood Environmental Meeting.

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Thank you again for providing public comment for this project. It's engaged residents that keep our City beautiful and lively, while holding everyone involved accountable. I truly appreciate it.

Doug Yormick

Assistant Planner | Community Planning and Development 1775 12th Ave NW Issaquah, WA 98027 425.837.3083 dougy@issaquahwa.gov



From: Julia Spangler <jespangler@gmail.com> **Sent:** Saturday, September 25, 2021 10:40 AM **To:** Doug Yormick <DougY@issaquahwa.gov>

Subject: Rowley water

Dear Doug,

I would like to add my voice to others who are concerned about the drainage from Rowley developments going into sensitive areas of Lake Sammamish. Please let us stop sacrificing essential natural systems to our greed in making the most money from developments. Business does not trump nature, especially when our salmon populations are already so stressed by climate change and development all over the area.

I suspect you know all of the arguments. Please don't succumb to pressure from powerful, rich corporations. They can use their own land to make a containment pond, and they can make it pretty like the containment pond at Pickering Place. Do it right for the good of the whole, including the health of our lake.

Julia Spangler

Exhibit 7



Wet.land, LLC
Jennifer Marriott, PWS
15803 Bear Creek Parkway
Unit E513
Redmond, WA 98052

15 April 2022

Doug Yormick
City of Issaquah
Community Planning and Development

PROJECT: Hyla Crossing Pumped Stormwater Discharge Project, Issaquah, Washington

SUBJECT: Response to Comments

Dear Doug,

Comments to this Project from The Watershed Company (TWC) were provided to us on 20 August 2021. The TWC letter is dated 10 June 2021. Comments as presented by TWC are below in **bold** font, while our responses follow in a normal font. The comments are separated by Section as provided in the TWC letter starting with the *Recommendations* section, followed by the more detailed comments regarding *Wetland Classification* and *On-site Restoration and Mitigation*. This response has been updated to reflect the most recent site and mitigation plans as of 15 April 2022.

RECOMMENDATIONS

1. Prepare the required wetland rating form figures for Wetland E.

Wetland rating forms have been prepared, and are attached with a revised wetland rating sheet for Wetland E only (**Attachment 1**). The wetland ratings have not changed for the other wetlands within the Project Area as the other wetlands are outside of the project limits for the proposed pipeline.

2. Address the wetland rating inconsistencies discussed under the Wetland Classification section above; revise the wetland classification accordingly.

The rating form for Wetland E has been revised, attached, with rating figures. However, note that many of the below rating inconsistencies do not apply to the revised rating as the wetland had been rated using the wrong HGM classification.

3. Revise the Plant Density Tables and Plant Schedule on Sheet W3.3 to be consistent with each other. Verify the correct plant quantities based on the proposed plant spacing.

The Plant Density Tables and Plant Schedule on Sheet W3.3 have been resolved to be consistent with each other. Plant quantities for each species in each zone were also checked and updated as needed. See the revised Mitigation Plan provided as **Attachment 2**.

4. Clarify the Plant Communities Legend on Sheet W3.3 to accurately depict where the Zone 4 willow stakes will be placed.

The proposed stormwater line transects the Volunteer Restoration area where willow stakes were previously planted by volunteers for the City at approximately 6' o.c. Note that Zone 4 is the Volunteer Restoration Area that occurs outside of the construction corridor. Those portions of the Volunteer Restoration Area that occur within the construction corridor have been included within Zone 1. The displaced willow stake replacement plantings will now be planted within Zone 4. The Volunteer Restoration Area (Zone 4) was found to have many large gaps that could benefit from additional (replacement) planting. The exact locations of these gaps were not surveyed as agreed by the City. A rough diagram was provided by the Parks Department to be used as a baseline in the attached Mitigation Plan and has been taken into account with the mitigation design. The 684 replacement willow stakes will be planted in the gaps within Zone 4 with the exact locations determined by a professional on site at the time of planting.

5. Confirm that all plant species installed beneath the power lines will not exceed the maximum allowed height per the utility agency.

The planting plan has been revised to remove Scouler's willow from the enhancement area where overhead utility lines hang. All plants directly under the overhead lines are shrubs; vine maples and hooker's willow maturing out at heights of 25 feet will be located beyond the overhead lines.

6. Provide performance standards for all on-site restoration/enhancement areas.

Performance standards for the onsite mitigation will be as follows:

Objective A: Restore Palustrine Emergent/Scrub-Shrub Wetland

<u>Performance Standard A1:</u> Percent survival of all installed species must be at least 100% at the end of Year 1 (per contactor warranty), and at least 85% by the end of Year 3.

<u>Performance Standard A2:</u> At least 5 species of desirable native woody plant species will be present in the wetland and buffer restoration areas. Species may be comprised of both planted and naturally colonized vegetation.

<u>Performance Standard A3:</u> Total percent aerial woody plant coverage must be at least 35% by Year 4, 50% by Year 5, 55% by Year 7, and 65% by Year 10.

<u>Performance Standard A4:</u> Indicators of wetland hydrology will be present between March 1st – May 15th, during the spring monitoring period. This Mitigation Site is expected to reflect soil saturation in the upper 12 inches of the soil surface.

Objective B: Restore and Enhance Buffer

<u>Performance Standard B1:</u> Percent survival of all installed species must be at least 100% at the end of Year 1 (per contactor warranty), and at least 85% at the end of Year 3.

<u>Performance Standard B2:</u> At least 5 species of desirable native woody plant species will be present in the wetland and buffer restoration areas. Species may be comprised of both planted and naturally colonized vegetation.

<u>Performance Standard B3:</u> Total percent aerial woody plant coverage must be at least 35% by Year 4, 50% by Year 5, 55% by Year 7, and 65% by Year 10.

Objective C: Remove and control invasive plants to less than 10% cover in mitigation areas

<u>Performance Standard C1:</u> After construction and throughout the 10-year monitoring period, areal coverage by non-native invasive plant species shall be maintained at 10% or less throughout the mitigation site. These standards apply to ditch, riparian, and upland buffer areas combined. These species include, but are not limited to: Scot's broom, Himalayan and evergreen blackberry, purple loosestrife, hedge bindweed, and bittersweet nightshade.

<u>Performance Standard C2:</u> Per USACE requirements, after construction and throughout the monitoring period, non-native invasive knotweed species (such as *Polygonum cuspidatum*, *P. polystachyum*, *P. sachalinense*, *and P. bohemicum*) will be eradicated throughout the mitigation areas (including buffer areas) for a total cover of 0%.

7. Provide a contingency plan for the on-site mitigation.

Chapter 11 of the Critical Areas Report prepared by Talasaea Consultants, dated 21 May 2021 (as revised 15 April 2022), outlines the Contingency Plan for the mitigation onsite. A separate document has not been prepared. The text of Chapter 11 of the CAR is below:

Regular maintenance reviews will be performed according to the schedule presented in Table 4 to address any conditions that could jeopardize the success of the mitigation project. Following maintenance reviews by the biologist or ecologist, required maintenance on the site will be implemented within ten (10) business days of submission of a maintenance memo to the maintenance contractor and permittee.

Established performance standards for the project will be compared to the yearly monitoring results to judge the success of the mitigation. If during the course of the monitoring period, there appears to be a significant problem with achieving the performance standards, the permittee shall work with the City and other permitting agencies to develop a Contingency Plan in order to get the project back into compliance with the performance standards. Contingency plans can include, but are not limited to, the following actions: additional plant installation, erosion control, bank stabilization, modifications to hydrology, and plant substitutions of type, size, quantity, and/or location. If required, a Contingency Plan shall be submitted to the City by December 31st of any year when deficiencies are discovered.

The following list includes examples of maintenance (M) and contingency (C) actions that may be implemented over the duration of the monitoring period. This list is not intended to be exhaustive, and other actions may be implemented as deemed necessary.

- During year one, replace all dead woody plant material (M).
- The irrigation system shall be programmed to provide 1/2-inch of water two times per week (one cycle with two start times per week or every three days) between June 15 –October 15 during the first two years after installation, and for the first two years after any replacement plantings (C & M).
- Replace dead plants with the same species or a substitute that meets mitigation plan goals and objectives, subject to Talasaea and agency approval (C).
- Re-plant area after the reason for failure has been identified (e.g., moisture regime, poor plant stock, disease, shade/sun conditions, wildlife damage, etc.) (C).
- After consulting with City staff and other permitting agencies, minor excavations, if deemed to be more beneficial to the existing conditions than currently exists, will be made to correct surface drainage patterns (C).
- Remove/control weedy or exotic invasive plants (e.g., Scotch broom, reed canarygrass, Himalayan blackberry, purple loosestrife, Japanese knotweed, etc.) by manual or chemical means approved by permitting agencies. Use of herbicides or pesticides within the mitigation area would only be implemented if other measures failed or were considered unlikely to be successful and would require prior agency approval. All non-native vegetation must be removed and disposed of off-site. (C & M).
- Weed all trees and shrubs to the dripline and provide 3-inch deep mulch rings 24 inches in diameter for shrubs and 36 inches in diameter for trees (M).
- Remove trash and other debris from the mitigation areas twice a year (M).
- Selectively prune woody plants at the direction of Talasaea Consultants to meet the mitigation plan's goal and objectives (e.g., thinning and removal of dead or diseased portions of trees/shrubs) (M).
- Repair or replace damaged structures including signs and fencing (M).

8. Prepare a bond quantity worksheet in accordance with IMC 18.10.810 and Development Agreement Appendix J 13.0.

A bond quantity worksheet has been prepared and is attached (**Attachment 3**).

9. Provide additional buffer areas for the maintenance access point within the Wetland E buffer.

This is a linear project whose project area is defined only by the corridor through which the new pipe will be installed. The Applicant does not own the property on which Wetland E occurs nor do they own any adjacent properties where the addition of buffer would be possible. Buffer replacement adjacent to the existing buffer is not possible around this Project Area given the constraints of the site. The buffer is already heavily impacted

by existing public roads and infrastructure. The permanent buffer impact resulting from the maintenance access will be added to the credits purchased from the Keller Farm Mitigation Bank as there is no other alternative available for buffer mitigation beyond what is already proposed.

Accounting for the wetland rating revisions above, total credits purchased will now be as follows – see Table 1 below. This includes a purchase of buffer credits for those areas of buffer that cannot be replaced in the field due to the existing constraints that the Applicant has no control over. Note that this table has been updated to also include the new rating of the wetland. Mitigation ratios for Category 1 wetlands are typically between 1.5 or 2:1, variable, and this value will be determined at a later date once discussions with the USACE proceed further in conjunction with the mitigation bank manager to finalize which ratio is determined to be most appropriate given the physical characteristics of this wetland and lack of any special habitats.

Table 1 Summary	of Credits to be Purch	hased from Keller Farn	n Mitigation Rank
Tuble 1. Sullillial v	JI CIEUIG IO DE FUICI	luseu il ulli Nellei i ulli	i miliuulion bunk

Critical Area ID	Type of Impact	Area of Impact (square feet)	Mitigation Bank Credit to Impact Ratio	Wetland Credits Purchased	Buffer Credits Purchased
Wetland E – Outfall	Category I Wetland	315	1.5:1 or 2:1 (TBD)	473 or 630	
Wetland E- Maintenance Access	Category I Wetland	490	1.5:1 or 2:1 (TBD)	735 or 980	
Total Wetland Impacts		805	1.5:1 or 2:1 (TBD)	1,208 or 1,610	
Wetland E Buffer	Critical Area Buffer	244	0.3:1		73.2

10. Provide additional buffer or mitigation for the proposed trail in the Tibbetts Creek buffer.

No additional buffer replacement or mitigation will be provided for the proposed trail within the Tibbetts Creek buffer because this trail is designed and located consistent with the DA. See response below for Recommendation #11 for more details.

11. Remove the proposed trail from the Northern Enhancement Area square footage calculations. Additional buffer restoration may be required to maintain consistency with the Development Agreement Appendix J 7.0.B.1.b.3.

Appendix B (Section 4.2) of the DA clearly outlines *Critical Area Trail* as one of the targeted pedestrian-oriented types of circulation required as part of the greater Hyla Crossing development. Section 4.2.1 of Appendix B notes that *Critical Area Trails are non-motorized trails used in critical area buffers*. While this section does not specifically locate where these critical area trails should be, this section of the DA clearly provides for these trails to occur within critical area buffers.

Additionally, Section 5.4 of Appendix B of the DA discusses the *Tibbetts Creek Trail Guidelines*. These guidelines require that the Hyla Crossing project broadly design "at least a portion of the Greenway trail as a

Critical Area Trail." There are also notes that where this trail occurs within a Critical Area, the trail should reflect the character of that adjacent use, such as incorporating native plants and natural materials into the trail design.

Section 3.0 of Appendix D *Community Spaces* clearly identifies the *Tibbetts Creek Trail* as a required community space that will parallel Tibbetts Creek and allow pedestrian and bicycle access through the Hyla Crossing neighborhood. Exhibit D-2 identified the proposed alignment of the Tibbetts Creek Trail (**Attachment 4**).

Section 5.1 of Appendix E *Circulation Standards* outlines the restrictions of the Critical Areas Trail, including corridor dimensions (**Attachment 5**). Critical Area Trails are expected to be 13 feet in width which includes a five (5) foot sidewalk with four (4) feet of landscaping on either side. The adjacent landscaping to the main Critical Area Trail is intended to be compatible with the native vegetation presumed to be in the adjacent buffer.

The proposed trail at the outer edge of the Tibbetts Creek buffer restoration is consistent with the DA that specifies that some trails are required to be located within the critical areas buffers as part of the commitment to expanded pedestrian circulation around and through the Hyla Crossing neighborhood and as referenced by the City's parks and open space strategic plan for circulation. The DA clearly identified this segment of trail along Tibbetts Creek. Additional buffer restoration is not proposed to compensate for buffer contained within this pedestrian trail.

12. Note that the project as designed will require a shoreline variance.

Noted. A request for a shoreline variance has already been submitted and is currently under review by the City of Issaquah. Please note that the same critical areas report was submitted for the shoreline variance as was provided for the ASDP review. These revised documents responding to TWC recommendations should be used for the shoreline variance as well since the document revisions pertain to both the ASDP and shoreline variance applications.

Wetland Classification

Note on HGM classification of Wetland E: This wetland was previously rated as a depressional wetland because there were multiple HGM classes present. After further review, the wetland is dominated by lake fringe and slope characteristics, rather than depressional characteristics. The outlet is lower in elevation than either the center or upper limits of this wetland, and no pockets exist where more than a few inches of water can pool except where direct interaction with the lake occurs. Based on these characteristics, a lake fringe & slope HGM classes for this wetland rating seem more accurate. The rating sheet notes that where a wetland has both lake fringe and slope wetland components, a lake fringe rating is appropriate. With that in mind – the questions below have been adjusted accordingly.

1. Question D1.2 The soil 2 inches below the surface is true clay or organic: This question was answered "No." NRCS soil mapping indicates that a substantial portion of the Wetland E unit contains Shalcar muck, a true organic soil. Per the Rating System guidance: "If the unit is found within an area that is mapped as an organic or clay soil by the National Resource Conservation Service (NRCS) on their county soil maps, consider the unit to have clay or organic soils." This question should be answered "Yes," and four points should be allocated.

This question is no longer applicable to the new wetland rating.

2. Question D1.4 The area that is ponded for at least 2 months: This question was answered "Area seasonally ponded is > 1/4 the total area." The required figure documenting Talasaea's conclusion was not provided. However, per the National Wetlands Inventory, more than 1/2 of Wetland E is mapped as seasonally flooded. Absent evidence to the contrary, this question should be answered "Area seasonally ponded is > 1/2 the total area," and four points should be allocated.

This question is no longer applicable.

3. Questions D4.3 and D5.3 cannot be reviewed without the required rating form figure depicting the contributing basin identified for the rating.

This question is no longer applicable.

4. Question H1.1 Structure of plant community: This question was answered with emergent, forested, and forested with three out of five strata Cowardin plant communities. However, there is a substantial portion (meeting minimum size thresholds) of the wetland unit that extends into Lake Washington and supports an aquatic bed community. This community is evident in aerial photos from multiple years (2013 iMap and 2007, 2009, 2012, 2014, 2016 Google Earth). "Aquatic bed" should be added to the Cowardin classifications, and four points should be allocated.

This was an oversight and aquatic bed should definitely be included as a plant community. This change has been made. However, only 2 additional points were added since 2 points were already given for the three (3) plant communities already noted, for four (4) points in total for this question – not four (4) additional points.

5. Question H1.2 Check the types of water regimes (hydroperiods) present within the wetland: This question was answered "occasionally flooded, saturated only, permanently flowing stream in or adjacent the wetland, and lake-fringe wetland." Portions of the wetland unit are lake-fringe (the unit is rated as a depression). However, the lake-fringe option is specific to units being rated as a lake-fringe hydrogeomorphic class. The lake-fringe area within Wetland A should be considered "permanently flooded." This correction does not affect the points allocated for the question.

No changes have been made to the rating sheet. This particular rating sheet was in draft form, as apparent by the side notations and items in () on the rating sheet. The HGM class revision changing this rating to a lake fringe rating means that hydroperiods remain as they are, however, the math needs to be corrected to accurately count the 2 points for the lake fringe wetland. Therefore, this question gets four (4) points in total, rather than the three (3) previous.

6. H1.4 Interspersion of habitats: This question was answered "moderate." However, the wetland unit contains forested, emergent, aquatic bed, and open water (lake and stream) components. Per the rating form, wetlands with four or more habitat types are automatically considered "high" interspersion. Four points should be allocated to this question.

We agree that this should be high. However, a high interspersion only allocates three (3) points, not four (4). This change has been reflected for three (3) instead of the previous two (2).

7. Questions H2.1, H2.2, and H2.3 cannot be reviewed without the required rating form figure and area percentage calculations provided.

See attached figure. The only effective change is that high intensity land use is not more than half of the polygon once the lake is accounted for appropriately.

On-Site Restoration and Enhancement

- 1. The "Plant Density Tables" on Mitigation Plan Sheet W3.3 do not align with the plant quantities in the "Plant Schedule" on Sheet W3.3.
 - a. Zone 1 table depicts 5,507 groundcover plantings, but the Zone 1 plant schedule depicts zero groundcover plantings. The Zone 1 planting area is identified as 22,027 square feet. At four feet oncenter, as proposed, this would equate to approximately 1,600 groundcover plantings, rather than 5,507.

Zone 1 is completely within Wetland E and is currently consumed by reed canary grass and is partially within the volunteer restoration area where willow stakes appear to have been planted at 6 feet on center. In response to preventing the consumption of re-established construction areas by reed canary grass, and maintaining clear access to accommodate any potential truck or maintenance access needed to the outfall, Talasaea proposes seeding the entire zone with a native wetland grass mix in efforts to establish 100% coverage and outcompete any invasion of reed canary grass. While the Planting Density Tables specify "groundcover," at this location and elsewhere as noted underneath the Planting Density Tables, groundcover is also used to reference the proposed native seed mixes rather than individually planted groundcover plants. Zone 1 will be seeded at a rate of 20-25 pounds per acre.

b. Zone 2 table depicts 8,448 groundcover plantings, but the Zone 2 plant schedule depicts zero groundcover plantings. The Zone 2 planting area is identified as 33,792 square feet. At four feet oncenter, as proposed, this would equate to approximately 2,450 groundcover plantings, rather than 8,448. It is also unclear what the qualifier "(50% coverage)" is meant to clarify in the Zone 2 table for groundcovers, as the proposed groundcover quantities are more than 3x what would be required for four-foot spacing.

Zone 2 area is indicative of scrub shrub and upland meadow vegetation in a wetland buffer. It covers the maintenance access entrance and the area between NW Sammamish Road and the associated drainage

ditch. The qualifier '50% coverage' is for accommodation of access for maintenance vehicles. For city maintenance access to the roadside ditch and the necessity for accommodating any potential access to the outfall by truck or other machinery, any proposed vegetation cannot be so tall or woody as to obstruct maintenance access. Talasaea proposes seeding the entire zone with native wetland grass mix as groundcover in efforts to establish 100% coverage while providing unobstructed ground access. While the Planting Density Tables specify "groundcover," at this location and elsewhere as noted underneath the Planting Density Tables, groundcover is also used to reference the proposed native seed mixes rather than individually planted groundcover plants. Zone 1 will be seeded at a rate of 20-25 pounds per acre.

c. Zone 3 table depicts 6,539 groundcover plantings, but the Zone 3 plant schedule depicts 1,514 groundcover plantings. The Zone 1 planting area is identified as 26,154 square feet. At four feet oncenter, as proposed, this would equate to approximately 1,900 groundcover plantings, rather than 1,514.

Groundcover planting density should be 2 feet on-center, resulting in 6,539 plants. However, shrubs are being proposed denser than the density table as it generally establishes more reliably. Salal is proposed in certain locations as a ground cover to create structural and species diversity. Native upland meadow grass mix is also proposed within the enhancement area and surrounding the trail for visual surveillance and safety.

d. The plant schedule depicts salal at three feet on-center and snowberry at four feet on-center. Snowberry is a shrub, not a groundcover and would be more appropriate in the "massing shrubs" portion of the plant schedule. Further, the planting zone tables depict all groundcovers at four feet on-center.

Agree snowberry is a shrub and is now categorized accordingly. Salal, is used as a groundcover and per the density table, proposed to be planted 2 feet on center..

2. The "Plant Communities Legend" on Sheet W3.3 is confusing. The legend depicts the Zone 4 planting area as the entire existing volunteer restoration area and shows the Zone 1 planting area transecting the volunteer restoration area. The CAR and Sheet W2.0 clarify that the temporary impacts within existing volunteer restoration area, which has been planted with willow stakes, will be restored with willow stakes per the Zone 4 planting schedule. The Plant Communities Legend should be revised to clarify that the Zone 4 willow stakes will be placed in the temporary disturbance area, rather than the larger existing restoration area, similar to the depiction on Sheet W2.0.

Note that Zone 4 is the Volunteer Restoration Area that occurs outside of the construction corridor. Those portions of the Volunteer Restoration Area that occur within the construction corridor have been included within Zone 1. The portion of Zone 4 reflected on the map has been reduced for clarity to show an area equal to the disturbed area of Volunteer Restoration Area by construction of the stormwater forcemain. The Zone 4 willow stakes will not be planted in the temporary disturbance area. These willow stakes will be used to infill the existing willow stakes where there are gaps in coverage, as outlined above in the response to Recommendations Question #4. The objective with this mitigation plan is to infill those sparse areas with the

estimated number of willows displaced by the construction area. Zone 1 plantings will include more than willows as a number of other shrub species have been included to add species diversity while also providing a path unobstructed by woody plant material for maintenance access to the outfall. The willows that will be included within the Zone 1 plantings are separate from those displaced willows to be planted in Zone 4.

3. "Viewport 5" proposes Scouler's willows beneath existing overhead utility lines. Scouler's willows can reach 60 feet in height. The planting plan should avoid species that may exceed the allowed height threshold beneath the powerlines so that future mowing/pruning is not required. Coordination with the utility agency may be necessary.

Scouler's willow has been removed from the selection of plants proposed under the overhead utility lines. No plants proposed within the vicinity of the utility lines exceed a mature height of 25 feet as typically allowed under overhead lines and as advised by our electrical consultant. All shrubs with mature height taller than 12 feet are placed away from directly below the utility lines. A few conifers will be planted closer to the building site and well away from the utility lines.

4. The CAR notes that the mitigation performance standards will be provided after initial review and comments. An additional review will be required upon preparation of the performance standards.

Performance standards have been added. See response to Recommendation #6 above.

5. A contingency plan has not been provided as part of the mitigation plan as required per IMC 18.10.760.H and the Development Agreement.

A contingency was previously included in the Critical Areas Report. See response to Recommendation #7 above.

6. A bond quantity worksheet will be required in accordance with IMC 18.10.810. Both the current IMC and the Development Agreement Appendix J Section 13 require a performance bond equal to 150 percent of the total cost of the mitigation, if the mitigation is not complete prior to final approval of the development proposal. Both the current IMC and the Development Agreement also require a maintenance and monitoring bond equal to 50 percent of the estimated cost of maintenance and monitoring over five years.

Comment noted. A bond quantity worksheet has been prepared. See response to Recommendation #8 above.

Should you have any questions or require additional information regarding this Project, please contact Chris Borzio at KPFF or me at *jen@wet.land* (cell: 813-846-1684).

<u>Jennifer Marriott, PWS</u>

Owner, Wet.land, LLC

Attachments:

- 1. Attachment 1 Revised Rating Sheet for Wetland E, as revised by Wet.land, LLC
- 2. Attachment 2 Revised Mitigation Plan Set, prepared by Talasaea Consultants, 13 April 2022
- 3. Attachment 3 Bond Quantity Worksheet
- 4. Attachment 4 Exhibit D-2, Section 3.0, Appendix D Community Spaces of the DA
- 5. Attachment 5 Section 5.1 of Appendix E Circulation Standards of the DA



ATTACHMENT 1

Revised Rating Sheet for Wetland E, as revised by Wet.land, LLC

1

Current Rating Summary Based on Lake Fringe HGM Class

RATING SUMMARY – Western Washington

Name of wetland (or ID	#): WeHang	E	Date of si	te visit. 10/8/18	3
Rated by J. Mari					
HGM Class used for rati		Wetland has not the figures request	nultiple HGM	classes? <u> </u>	,
OVERALL WETLAND	CATEGORY	(based on function	ons or spec	cial characteristics_)
Categ	and based on FUI gory I – Total score = gory II – Total score gory III – Total score gory IV – Total score	= 23 - 27 = 20 - 22 = 16 - 19	5'	Score for each function based on three ratings (order of ratings is not	
1	nproving Hydrol	ogic Habitat	1	important)	
vva	ter Quality Circle	the appropriate ratings	- I	9 = H,H,H 8 = H,H,M	
Site Potential H	M L H M	(L) (H) (M) L		7 = H,H,L	
Landscape Potential H	M L H M	L H MY		7 = H,M,M	
Value	M L H M	L H M L	TOTAL	6 = H,M,L	
Score Based on Ratings	7 (0 6	19	6 = M,M,M 5 = H,L,L 5 = M,M,L	
C	7	8	24	3 = W,W,L 4 = M,L,L 3 = L,L,L	

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog		I
Mature Forest		I
Old Growth Forest		I
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above		

Previous Rating Summary

Wetland name or number

Ratings

RATING SUMMARY – Western Washington

Name of wetland (or ID #): We	Hand E		Date of	site visit: 10/3/18	
Rated by	<u>larriott</u>	Traine	ed by Ecology?_	YesNo	Date of training $\frac{4}{1}$	_015
	'(Slope)			classes?_ <u>V</u> N	
				ed (figures c	an be combined).	
Source o	f base aerial pho	oto/map				
OVERALL WETLAND CATEGORY (based on functions or special characteristics) 1. Category of wetland based on FUNCTIONS						
	Category I – Tota			- 1	Score for each	
1	Category II – Tot			2	function based on three	
V	Category III – To	tal score = 16	- 19		ratings	
	Category IV - To	tal score = 9 -	15		(order of ratings is not	
FUNCTION	Improving Water Quality	Hydrologic	Habitat		important) 9 = H,H,H	
		Circle the ap	propriate ratings	1	8 = H,H,M	
Site Potential	H M L	H M (L)	H M L	1	7 = H,H,L	
Landscape Potential	H M L	H M L	H M ()		7 = H,M,M	
Value	A M L	H) M L	H M L	TOTAL	6 = H,M,L	
Score Based on	7	(-	(0	19	6 = M,M,M 5 = H,L,L	

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	

5 = M,M,L 4 = M,L,L 3 = L,L,L

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	7
(can be added to figure above)		
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	\$3.3	

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

L	questions 1-7 apply, and go to Question 8.				
1.	Are the water levels in th	e entire unit usually con	rolled by tides except during floods?		
	NO - go to 2	YES - the	e wetland class is Tidal Fringe – go to 1.1		
	1.1 Is the salinity of the wa	ter during periods of ann	ual low flow below 0.5 ppt (parts per thousand)?		
		lassified as a Freshwater e it is an Estuarine wetla	YES - Freshwater Tidal Fringe Tidal Fringe use the forms for Riverine wetlands. If nd and is not scored. This method cannot be used to		
2.	The entire wetland unit is and surface water runoff		the only source (>90%) of water to it. Groundwater to the unit.		
	NO – go to 3 If your wetland can be cla	ssified as a Flats wetland,	YES – The wetland class is Flats use the form for Depressional wetlands.		
3. Does the entire wetland unit meet all of the following criteria? The vegetated part of the wetland is on the shores of a body of permanent open water (with plants on the surface at any time of the year) at least 20 ac (8 ha) in size; At least 30% of the open water area is deeper than 6.6 ft (2 m).			res of a body of permanent open water (without an least 20 ac (8 ha) in size;		
	NO - go to 4	YES - The wetland	class is Lake Fringe (Lacustrine Fringe)		
4.	The water flows throu	ope (<i>slope can be very gr</i> ugh the wetland in one di osurface, as sheetflow, or	adual), rection (unidirectional) and usually comes from in a swale without distinct banks,		
	NO – go to 5		YES – The wetland class is Slope		
			of wetlands except occasionally in very small and ssions are usually <3 ft diameter and less than 1 ft		
5.	stream or river,		re it gets inundated by overbank flooding from that		

Wetland name or	number
-----------------	--------

NO - go to 6

YES - The wetland class is Riverine

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7

YES - The wetland class is Depressional

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8

YES - The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	7-
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland:	
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0	$ \mathcal{Q} $
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants < ½ of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is < ½ total area of wetland points = 2 points = 0	2
Total for D 1 Add the points in the boxes above	8
Rating of Site Potential If score is 12-16 = H 6-11 = M 0-5 = L Record the rating on the first po	ige
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	Ø
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	Ø
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 No = 0	Ø
Total for D 2 Add the points in the boxes above	
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the file	rst page
D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	(
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0	2,
Total for D 3 Add the points in the boxes above	141

Rating of Value If score is: $\sqrt{2-4} = H$ ___1 = M ___0 = L

Record the rating on the first page

DEPRESSIONAL AND FLATS WETLANDS			
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation			
D 4.0. Does the site have the potential to reduce flooding and erosion?			
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving i Wetland has an intermittently flowing stream or ditch, OR highly constrict Wetland is a flat depression (QUESTION 7 on key), whose outlet is a perm Wetland has an unconstricted, or slightly constricted, surface outlet that	tted permanently flowing outletpoints = 2 anently flowing ditch points = 1	\$	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above with no outlet, meosure from the surface of permonent water or if dry, the Marks of ponding are 3 ft or more above the surface or bottom of outlet Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet The wetland is a "headwater" wetland Wetland is flat but has small depressions on the surface that trap water Marks of ponding less than 0.5 ft (6 in)		Ø	
D 4.3. Contribution of the wetland to storage in the watershed: Estimote the rot contributing surfoce water to the wetland to the orea of the wetland unit. The area of the basin is less than 10 times the area of the unit. The area of the basin is 10 to 100 times the area of the unit. The area of the basin is more than 100 times the area of the unit. Entire wetland is in the Flats class.		5	
Total for D 4	Add the points in the boxes above	5	
Rating of Site Potential If score is:12-16 = H6-11 = M0-5 = L	Record the roting on the j	first poge	
D 5.0. Does the landscape have the potential to support hydrologic function	tions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	Ø	
D 5.2. Is $>10\%$ of the area within 150 ft of the wetland in land uses that generate	e excess runoff? Yes = 1 No = 0	1	
D 5.3. Is more than 25% of the contributing basin of the wetland covered with in >1 residence/ac, urban, commercial, agriculture, etc.)?	ntensive human land uses (residential at Yes = 1 No = 0	Ø	
Total for D S	Add the points in the boxes above	1	
Rating of Landscape Potential if score is:3 = H1 or 2 = M0 = L	Record the roting on the	first poge	
D 6.0. Are the hydrologic functions provided by the site valuable to socie	ty?		
D 6.1. The unit is in a landscape that has flooding problems. Choose the descript the wetland unit being rated. Do not odd points. Choose the highest score The wetland captures surface water that would otherwise flow down-gradamaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of e. Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. The existing or potential outflow from the wetland is so constrained by he water stored by the wetland cannot reach areas that flood. Explain why	e if more than one condition is met. dient into areas where flooding has unit. points = 2 points = 1 points = 1	2	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?			
	Yes = 2 No = 0	9	
Total for D 6	Add the points in the boxes above	-	
Rating of Value If score is: 1/2-4 = H1 = M0 = L	Record the roting on the j	first poge	

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS				
Water Quality Functions - Indicators that the site functions to improve water quality				
R 1.0. Does the site have the potential to improve water quality?				
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a	flooding event:			
Depressions cover > 3/4 area of wetland	points = 8			
Depressions cover > 1/2 area of wetland	points = 4			
Depressions present but cover < ½ area of wetland	points = 2			
No depressions present	points = 0			
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height, not Cowardin	r classes)			
Trees or shrubs $> \frac{2}{3}$ area of the wetland	points = 8			
Trees or shrubs > 1/3 area of the wetland	points = 6			
Herbaceous plants (> 6 in high) > $^{2}/_{3}$ area of the wetland	points = 6			
Herbaceous plants (> 6 in high) > $^{1}/_{3}$ area of the wetland	points = 3			
Trees, shrubs, and ungrazed herbaceous $< \frac{1}{3}$ area of the wetland	points = 0			
Total for R 1 Add the points in the boxes above				
Rating of Site Potential If score is:12-16 = H6-11 = M0-5 = L	Record the rating on th	ne first page		
R 2.0. Does the landscape have the potential to support the water quality function of t	he site?			
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0			
R 2.2. Does the contributing basin to the wetland include a UGA or incorporated area?	Yes = 1 No = 0			
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that he within the last 5 years?	nave been clearcut Yes = 1 No = 0			
R 2.4. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0			
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in quest Other sources	tions R 2.1-R 2.4 Yes = 1 No = 0			
Total for R 2 Add the point	ts in the boxes above			
Rating of Landscape Potential If score is:3-6 = H1 or 2 = M0 = L	Record the rating on th	ne first page		
R 3.0. Is the water quality improvement provided by the site valuable to society?				
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drain	ns to one within 1 mi?			
	Yes = 1 No = 0			
R 3.2. Is the wetland along a stream or river that has TMDL limits for nutrients, toxics, or pathol	-			
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining wa	Yes = 1 No = 0			
YES if there is a TMDL for the drainage in which the unit is found)	Yes = 2 No = 0			
	ts in the boxes above			
Rating of Value If score is:2-4 = H1 = M0 = L	Recard the rating on th	ne first page		

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS		
Hydrologic Functions - Indicators that site functions to reduce flooding and stream erosion		
R 4.0. Does the site have the potential to reduce flooding and erosion?		
R 4.1. Characteristics of the overbank storage the wetland provides: Estimate the average width of the wetland perpendicular to the direction of t stream or river channel (distance between banks). Calculate the ratio: (avera width of stream between banks).		
If the ratio is more than 20 If the ratio is 10-20 If the ratio is 5-<10 If the ratio is 1-<5 If the ratio is < 1	points = 9 points = 6 points = 4 points = 2	
R 4.2. Characteristics of plants that slow down water velocities during floods: Treat shrub. Choose the points appropriate for the best description (polygons need height. These are NOT Cowardin classes). Forest or shrub for > 1/3 area OR emergent plants > 2/3 area Forest or shrub for > 1/10 area OR emergent plants > 1/3 area Plants do not meet above criteria	- IV	
Total for R 4	dd the points in the boxes above	
R 5.0. Does the landscape have the potential to support the hydrologic function of the stream or river adjacent to the wetland downcut? R 5.1. Is the stream or river adjacent to the wetland downcut? R 5.2. Does the up-gradient watershed include a UGA or incorporated area? R 5.3. Is the up-gradient stream or river controlled by dams? Total for R 5	Yes = 0 No = 1 Yes = 1 No = 0 Yes = 0 No = 1 dd the points in the boxes above	
Rating of Landscape Potential If score is:3 = H1 or 2 = M0 = L R 6.0. Are the hydrologic functions provided by the site valuable to society?	Record the rating on the first page	
R 6.1. Distance to the nearest areas downstream that have flooding problems? Choose the description that best fits the site. The sub-basin immediately down-gradient of the wetland has flooding proble human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream R 6.2. Has the site been identified as important for flood storage or flood conveyance.	points = 2 points = 1 points = 0 ce in a regional flood control plan?	
Total for R 6	Yes = 2 No = 0 dd the points in the boxes above	
Rating of Value	Record the rating on the first page	

LAKE FRINGE WETLANDS Water Quality Functions - Indicators that the site functions to improve water quality		
L 1.0. Does the site have the potential to improve water quality?		
L 1.1. Average width of plants along the lakeshore (use polygons of Cowardin classes):		
Plants are more than 33 ft (10 m) wide	points = 6	
Plants are more than 16 ft (5 m) wide and <33 ft	points = 3	6
Plants are more than 6 ft (2 m) wide and <16 ft	points = 1	
Plants are less than 6 ft wide	points = 0	
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that result points, and do not include any open water in your estimate of coverage. The herbaceous the dominant form or as an understory in a shrub or forest community. These are not Cow of cover is total cover in the unit, but it can be in patches. Herbaceous does not include aqual to the coverage of the heavest and the coverage of the coverage of the coverage.	plants can be either vardin classes. Area vatic bed.	
Cover of herbaceous plants is >90% of the vegetated area	points = 6	4
Cover of herbaceous plants is $>^2/_3$ of the vegetated area Cover of herbaceous plants is $>^1/_3$ of the vegetated area	points = 4	
Cover of heroaceous plants is $> 7_3$ of the vegetated area Other plants that are not aquatic bed $> {}^2/_3$ unit	points = 3	
Other plants that are not aquatic bed $> 7_3$ unit Other plants that are not aquatic bed in $> 1/3$ vegetated area	points = 3 points = 1	
Aguatic bed plants and open water cover > $\frac{2}{3}$ of the unit	points = 1 points = 0	
	in the boxes above	10
Rating of Site Potential If score is12 = H4-7 = M0-3 = L	Record the rating on th	ne first page
L 2.0. Does the landscape have the potential to support the water quality function of the	e site?	
L 2.1. Is the lake used by power boats?	Yes = 1 No = 0	1
L 2.2. Is > 10% of the area within 150 ft of wetland unit on the upland side in land uses that general	rate pollutants? Yes = 1 No = 0	1
L 2.3. Does the lake have problems with algal blooms or excessive plant growth such as milfoil?	Yes = 1 No = 0	1
Total for L 2 Add the points	in the boxes above	3
Rating of Landscape Potential: If score is or 3 = H1 = M0 = L	Record the rating on th	ne first page
L 3.0. Is the water quality improvement provided by the site valuable to society?		
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources?	Yes = 1 No = 0	1
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aquatic resource in the 303(d) list)?	ne basin is on the Yes = 1 No = 0	1
L 3.3. Has the site been identified in a watershed or local plan as important for maintaining water if there is a TMDL for the lake or basin in which the unit is found.	r quality? <i>Answer YES</i> Yes = 2 No = 0	2
	in the boxes above	4
Rating of Value If score i:2-4 = H1 = M0 = L	Record the rating on th	ne first page

LAKE FRINGE WETLANDS	The state of the s	
Hydrologic Functions - Indicators that the wetland unit functions to redu	ce shoreline erosio	on
L 4.0. Does the site have the potential to reduce shoreline erosion?		
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore (do not inci Choose the highest scoring description that matches conditions in the wetland.	ude Aquatic bed):	
> % of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 6	Λ
> 1/4 of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide	points = 4	4
> ¼ distance is Scrub-shrub or Forested at least 33 ft (10 m) wide ←	points = 4	
Plants are at least 6 ft (2 m) wide (any type except Aquatic bed)	points = 2	
Plants are less than 6 ft (2 m) wide (any type except Aquatic bed)	points = 0	
Rating of Site Potential: If score is:6 = M0-5 = L	Record the rating on t	he first page
L 5.0. Does the landscape have the potential to support the hydrologic functions of the sit	te?	
L 5.1. Is the lake used by power boats with more than 10 hp?	Yes = 1 No = 0	1
L 5.2. Is the fetch on the lake side of the unit at least 1 mile in distance?	Yes = 1 No = 0	1
Total for L 5 Add the points in	the boxes above	2
Rating of Landscape Potential If score is 2 = H1 = M0 = L	Record the rating on t	he first pag e
L 6.0. Are the hydrologic functions provided by the site valuable to society?		
L 6.1. Are there resources along the shore that can be impacted by erosion? If more than one reso choose the one with the highest score.	urce is present,	
There are human structures or old growth/mature forests within 25 ft of OHWM of the shor	re in the unit	
	points = 2	2
There are nature trails or other paths and recreational activities within 25 ft of OHWM	points = 1	
Other resources that could be impacted by erosion	oints = 1	
There are no resources that can be impacted by erosion along the shores of the unit	points = 0	

NOTES and FIELD OBSERVATIONS:

Rating of Value: If score is:

Record the rating on the first page



SLOPE WETLANDS		
Water Quality Functions - Indicators that the site functions to improve water quality		
S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: (o 1% slope hos a 1 ft verticol drop in elevotion for every		
100 ft of horizontol distance)		
Slope is 1% or less points = 3	2	
Slope is > 1%-2% points = 2		
Slope is > 2%-5% points = 1		
Slope is greater than 5% points = 0	1	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0		
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:		
Choose the points appropriate for the description that best fits the plants in the wetland. <i>Dense means you</i>		
have trouble seeing the soil surface (>75% cover), ond uncut means not grazed or mowed and plants are higher thon 6 in.		
	/	
Dense, uncut, herbaceous plants > 90% of the wetland area points = 6 Dense, uncut, herbaceous plants > ½ of area points = 3		
Dense, woody, plants > ½ of area points = 2		
Dense, uncut, herbaceous plants > ¼ of area points = 1		
Does not meet any of the criteria above for plants points = 0		
Total for S 1 Add the points in the boxes above	C	
That the points with a solid assite		
Rating of Site Potential If score is: 12 = H 16-11 = M 0-5 = L Record the rating on	th e first poge	
S 2.0. Does the landscape have the potential to support the water quality function of the site?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?		
Yes = 1 No = 0		
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	,	
Other sources Yes = 1 No = 0	/	
Total for S 2 Add the points in the boxes above	2	
Rating of Landscape Potential If score is: 1-2 = M 0 = L Record the rating on the first page		
S 3.0. Is the water quality improvement provided by the site valuable to society?		
	,	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	/	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0 S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the bosin is	/	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0 S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the bosin is on the 303(d) list. Yes = 1 No = 0	/	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0 S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the bosin is on the 303(d) list. Yes = 1 No = 0 S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES	7	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the bosin is on the 303(d) list. Yes = 1 No = 0 S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is o TMDL for the bosin in which unit is found. Yes = 2 No = 0	7 7	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0 S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the bosin is on the 303(d) list. Yes = 1 No = 0 S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES	/ / Z	

SLOPE WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion		
S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > \(^1/_8\) in), or dense enough, to remain erect during surface flows. Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions points = 0	J	
Rating of Site Potential If score is:1 = M0 = L	the first page	
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = $1 \text{ No} = 0$	/	
Rating of Landscape Potential If score is:1 = M0 = L	the first page	
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
\$ 6.1. Distance to the nearest areas downstream that have flooding problems:		
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream points = 0	2	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	P	
Total for S 6 Add the points in the boxes above	2	
Rating of Value If score is $\sqrt{2-4} = H$ $1 = M$ $0 = L$ Record the rating on the state of th	the first nage	

NOTES and FIELD OBSERVATIONS:



These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators ore Cowardin closses and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each closs to meet the threshold $Q^{\prime\prime\prime}$ ac or more thon 10% of the unit if it is smoller than 2.5 oc. Add the number of structures checked. Aguatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit hos o Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 _Occasionally flooded or inundated 2 types present: points = 1 1 type present: points = 0 Saturated only Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland 2 points Lake Fringe wetland 2 points Freshwater tidal wetland H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the some species con be combined to meet the size threshold ond you do not have to name the species. Da nat include Eurasian milfail, reed canarygrass, purple laasestrife, Canadian thistle If you counted: > 19 species points = 2 5 - 19 species points = 1 points = 0< 5 species H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you hove four or more plant closses or three closses and open water, the rating is olways high. None = 0 points Moderate = 2 points Low = 1 point All three diagrams in this row are **HIGH** = 3 points

Wetland name or number		8	12
H 1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is to Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). Standing snags (dbh > 4 in) within the wetland Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants e over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10) Stable steep banks of fine material that might be used by beaver or muskrat for slope) OR signs of recent beaver activity are present (cut shrubs or trees that hawhere wood is exposed) At least ¼ ac of thin-stemmed persistent plants or woody branches are present in permanently or seasonally inundated (structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in every stratum of plants strata)	extends at least 3.3 ft (1 m) m) denning (> 30 degree ave not yet weathered in areas that are	3	
Total for H 1 Add the p	points in the boxes above	1/	
Rating of Site Potential If score is 5-18 = H 7-14 = M0-6 = L	Record the rating on t	the first p	age
H 2.0. Does the landscape have the potential to support the habitat functions of the	e site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(% moderate and low intensity land If total accessible habitat is: > \frac{1}{3} (33.3%) of 1 km Polygon 20-33% of 1 km Polygon 10-19% of 1 km Polygon < 10% of 1 km Polygon 10 disturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat + [(% moderate and low intensity land Undisturbed habitat > 50% of Polygon Undisturbed habitat 10-50% and in 1-3 patches Undisturbed habitat 10-50% and > 3 patches Undisturbed habitat < 10% of 1 km Polygon H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use \leq 50% of 1 km Polygon is high intensity	points = 3 points = 2 points = 1 points = 0 uses)/2] =%	\(\mathbb{E}_1\) \(-2\)	
	points in the boxes above	0	
Rating of Landscape Potential If score is: 4-6 = H -3 = M -1 = L H 3.0. Is the habitat provided by the site valuable to society?	Record the rating on th	ne first pa	ge
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choc that applies to the wetland being rated. Site meets ANY of the following criteria: It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal or It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of It las been categorized as an important habitat site in a local or regional compres Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 2 n the state or federal lists) Natural Resources	2	
Rating of Value If score is: 2 = H 1 = M 0 = L	Record the rating on	the first p	! age

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/pas/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat.

- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and
- Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

- Old-growth/Mature forests: Old-growth west of Cascade crest Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

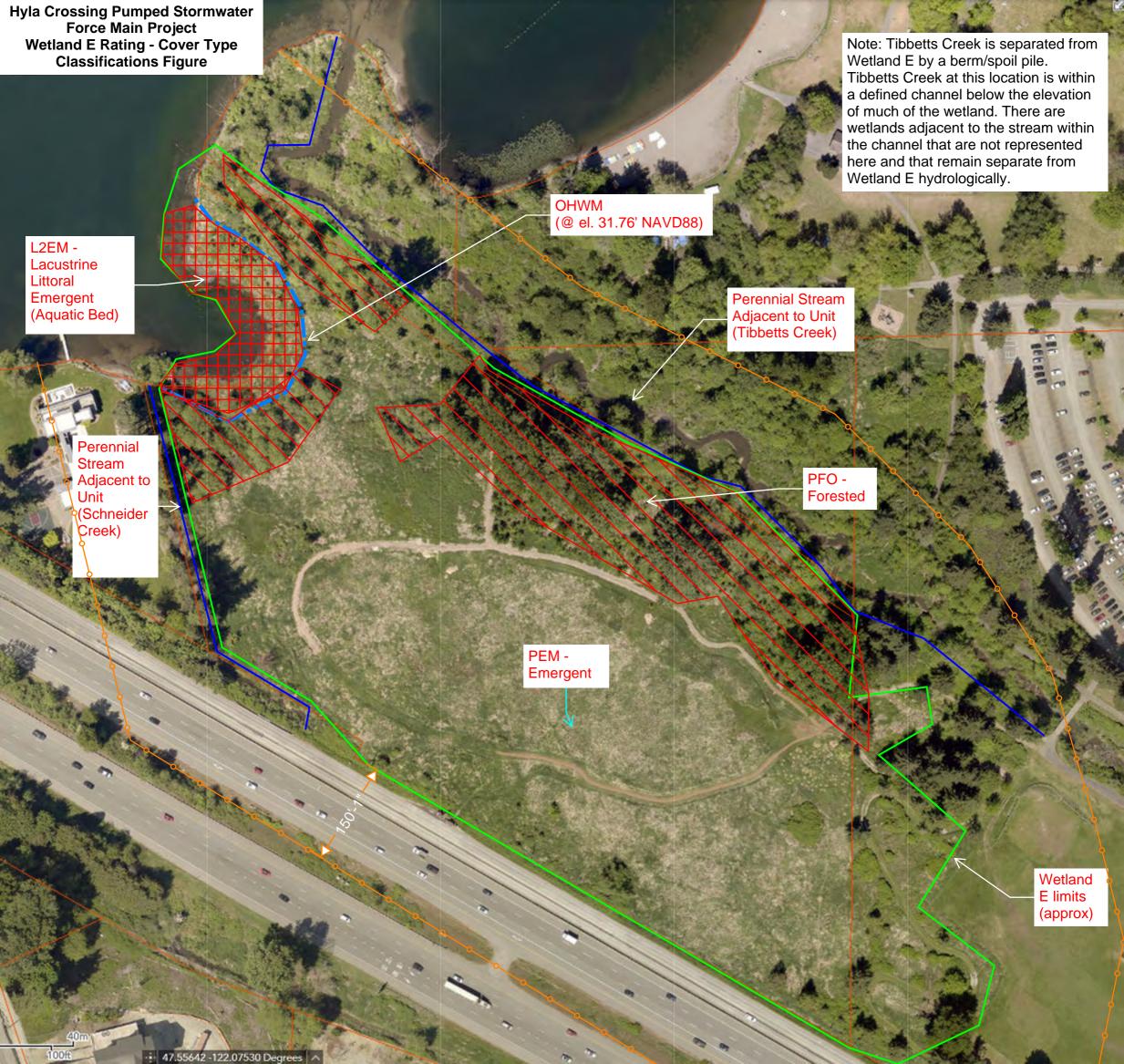
CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
Does the wetland meet the following criteria for Estuarine wetlands?	
— The dominant water regime is tidal,	f
— Vegetated, and	1
 — With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 No≈ Not an estuarine wetland 	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area	
Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category I No - Go to SC 1.2	Cat. I
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	1
— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)	Cat. I
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	
— The wetland has at least two of the following features: tidal channels, depressions with open water, or	Cat. II
contiguous freshwater wetlands. Yes = Category I No = Category II	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3	Cat. I
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category i No = Not a WHCV	1
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.guv/nhp/refdesk/datasearch/wnnowetJands.pdf	
Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV	
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
their website? Yes = Category I No = Not a WHCV	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key</i>	
below, If you answer YES you will still need to rate the wetland based on its functions.	i
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2	1
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep	
over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or	
pond? Yes – Go to SC 3.3 No = Is not a bog	
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%	1
cover of plant species listed in Table 4? Yes = is a Category i bog No - Go to SC 3.4	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by	. [
measuring the pH of the water that seeps into a hole dug at least 16 in deep. if the pH is less than 5.0 and the	
plant species in Table 4 are present, the wetland is a bog.	Cat. I
SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,	
western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the	
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	
Yes = Is a Category I bog No = Is not a bog	

Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate	
 the wetland based on its functions. Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). 	
Yes = Category I No = Not a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	
— The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) Yes — Go to SC 5.1 No = Not a wetland in a coastal lagoon	Cat. I
 5C 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un- 	Cat. 11
mowed grassland.	
— The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²) Yes = Category I No = Category II	
GC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. In practical terms that means the following geographic areas:	
— Long Beach Peninsula: Lands west of SR 103	
— Grayland-Westport: Lands west of SR 105	Cat I
 Ocean Shores-Copalis: Lands west of SR 115 and SR 109 Yes – Go to SC 6.1 No = not an interdunal wetland for rating 	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2	Cat. II
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3	Cat. III
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV	Cat. IV
Category of wetland based on Special Characteristics	

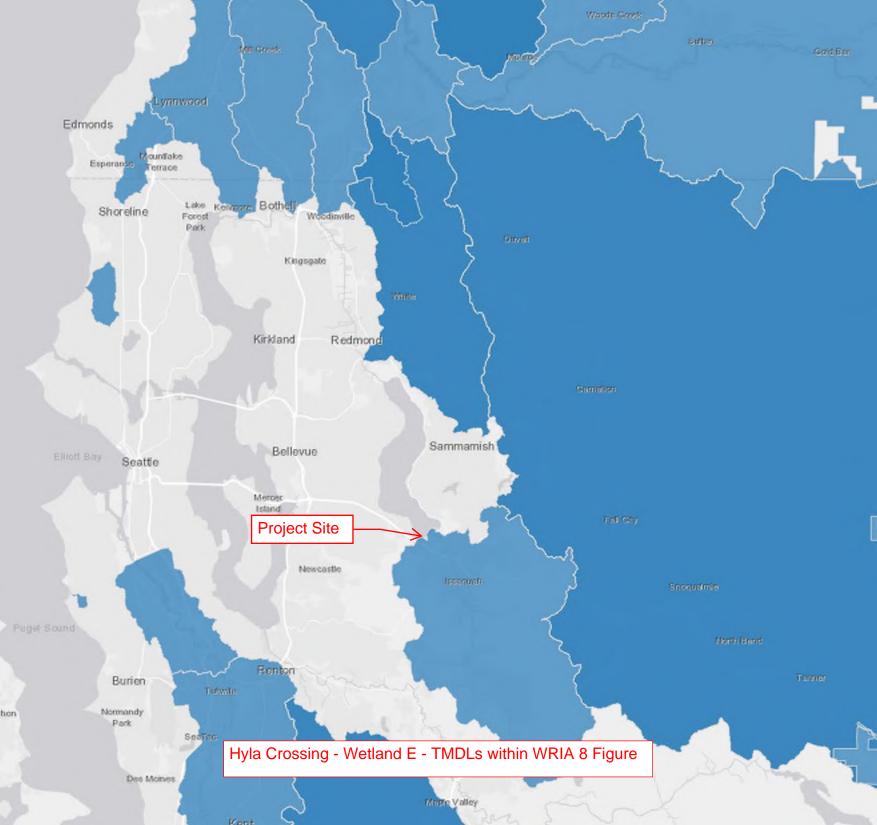
Wetland	name	or	number	
---------	------	----	--------	--

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ATTACHMENT 2

Revised Mitigation Plan Set, prepared by Talasaea Consultants, 13 April 2022

VIEWPORT

VICINITY MAP



(ACCESSED 10/7/2019)



CONTACTS

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<u>ENGINEER</u>

NAME: KPFF

ADDRESS: 1601 5TH AVE, SUITE 1600

SEATTLE, WA 98101 PHONE: (206) 622-5822 CONTACT: CHRIS BORZIO, PE CHRIS.BORZIO@KPFF.COM

ENVIRONMENTAL CONSULTANT

TALASAEA CONSULTANTS, INC.

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(425) 861-7550 CONTACT: EVA PARKER, SENIOR PROJECT MANAGER

EPARKER@TALASAEA.COM

WET.LAND NAME:

ADDRESS: 8201 164TH AVE NE, SUITE 200 REDMOND, WA 98052

206-309-8100

JEN@WET.LAND

SHEET INDEX

NUMBER	SHEET TITLE
WI.0	EXISTING CONDITIONS PLAN
W2.0	PROPOSED SITE PLAN, IMPACTS & MITIGATION OVERVIEW PLAN
W3.0	PLANTING PLAN
M3.1	PLANTING PLAN

PLANTING PLAN

PLANT SCHEDULE \$ NOTES

PLANTING DETAILS

PLANTING SPECIFICATIONS

PERFORMANCE MONITORING

OBJECTIVES



Know what's below. Call before you dig.

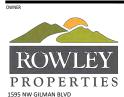
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206.622.5822



HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



ISSAQUAH WA, 98027

EP, AO PROJECT ARCHITECT

DRAWN BY

ASDP/SSDP/SV **RESUBMITTAL**

DESCRIPTION 10/3/2019 30% CD 1/1/2020 9/8/2021 ASDP REVISION #2 4/12/2022

EXISTING CONDITIONS PLAN

W1.0

4/12/2021

VIEWPORT

THE VOLUNTEER RESTORATION AREA)

(ESTIMATE: 8,237 SF (CONSTRUCTION AREA) \times 0.02T7 =228 \times 3 = 684)

2022 – 2:51pm :name: \ XS-SUR-

Seattle, WA 98101 206.622.5822 www.kpff.com



HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



ISSAQUAH WA, 98027

ESIGN TEAM	
	EP, AO
RINCIPAL	BS
ROJECT MANAGER	EP
ROJECT ARCHITECT	EP
RAWN BY	FH

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REVISIONS			
No. 1 2 3 4 5	DATE 10/3/2019 4/1/2020 4/12/2021 9/8/2021 4/12/2022	DESCRIPTION 30% CD ASDP ASDP REVISION #1 ASDP REVISION #2 ASDP/SSDP/SV	

IMPACTS & MITIGATION OVERVIEW PLAN

4/12/2021

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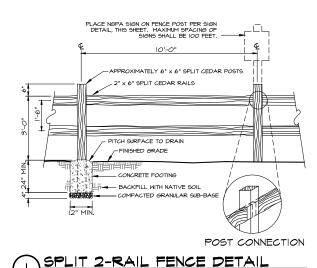
W2.0

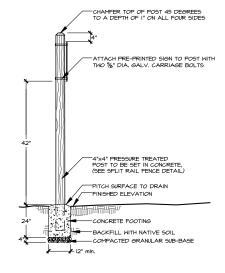
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2022 – ame: \

EXISTING TREES

PROPOSED STORMWATER





(2) NGPA SIGN POST DETAIL TYP.



NGPA SIGN NOT TO SCALE

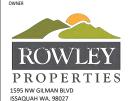


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HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



ESIGN TEAM	
	EP, AO
RINCIPAL	BS
ROJECT MANAGER	EP
ROJECT ARCHITECT	EP
RAWN RV	

ASDP/SSDP/SV **RESUBMITTAL**

REVISIO	ONS
1 10/3/2019 3 2 4/1/2020 # 3 4/12/2021 # 4 9/8/2021 #	DESCRIPTION 30% CD ASDP ASDP REVISION #1 ASDP REVISION #2 ASDP/SSDP/SV

SITE PLAN, **IMPACTS & MITIGATION OVERVIEW PLAN**

W2.1

ISSUE DATE 4/12/2021

IMPA<u>CTS LEGEND</u> PLAN LEGEND PROPERTY LINE TEMPORARY CONSTRUCTION IMPACTS -28,776 SF WETLAND E EXISTING WETLANDS TEMPORARY CONSTRUCTION IMPACTS - WETLAND E BUFFER 13,025 SF ---- ORDINARY HIGH WATER MARK 41,801 SF - - - - - STREAM BUFFER CONSTRUCTION IMPACTS (0.96 AC) PERMANENT WETLAND IMPACTS * DIRECTION OF FLOW 805 SF (STORMWATER OUTFALL) - - - - EDGE OF OPEN WATER PERMANENT WETLAND BUFFER IMPACTS * 244 SF ----EXISTING CONTOUR (ODD) (MAINTENANCE ACCESS) TOTAL PERMANENT 1,049 SF POST-CONSTRUCTION BUFFER SPLIT-RAIL FENCE CONSTRUCTION IMPACTS * (0.02 AC) NGPA SIGN (2)

* MITIGATION REQUIRED FOR THE PERMANENT IMPACTS OF WETLAND E AND ITS BUFFER WILL BE PROVIDED BY PURCHASING CREDITS AT KFMB USING THE CREDITS PER UNIT IMPACT RATIOS PROVIDED IN THE KFMB'S MITIGATION BANKING INSTRUMENT (SEE CRITICAL AREAS REPORT)

MITIGATION LEGEND 28.776 SF 13.025 SF TOTAL RESTORATION OF TEMPORARY 41,801 SF CONSTRUCTION IMPACTS (0.96 AC) 26,154 SF TIBBETTS CREEK NORTHERN (0.6 AC) ENHANCEMENT AREA (PER EXHIBIT I6 HYLA CROSSING MSP/BSF 97-01 NOTED IN APPENDIX J, CRITICAL AREAS, EXHIBIT J-I, DEVELOPER'S AGREEMENT.) VOLUNTEER RESTORATION AREA 8,237 SF

DISTURBED BY CONSTRUCTION

(AREA TO BE ENHANCED BY NUMBER OF WILLOWS DISPLACED BY CONSTRUCTION WITHIN THE VOLUNTEER RESTORATION AREA)

(ESTIMATE: 8,237 SF (CONSTRUCTION AREA) X

METLAND ENHANCEMENT

0.0277 =228 × 3 = 684)

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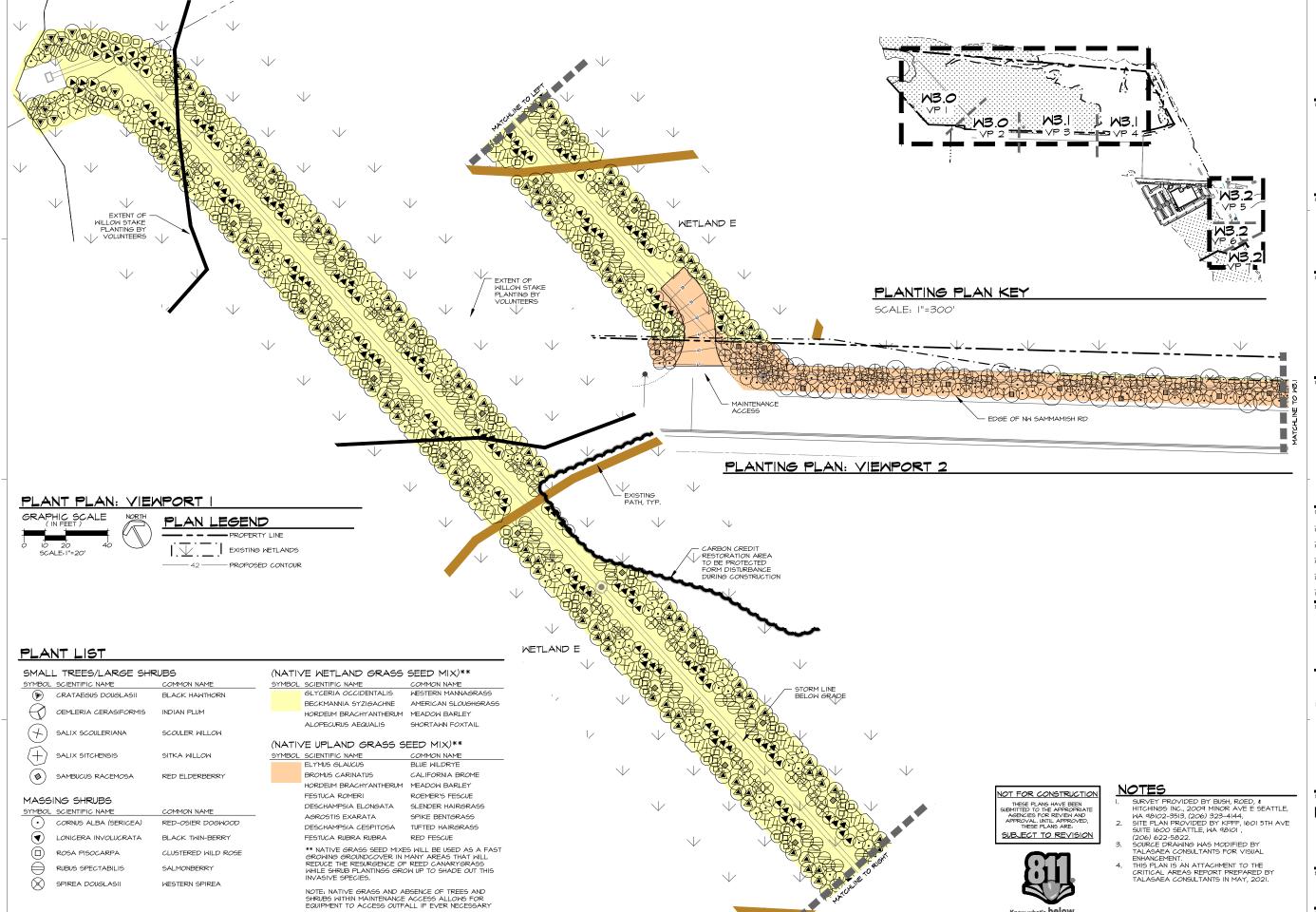
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HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



1595 NW GILMAN BLVD ISSAQUAH WA, 98027

ROFESSIONAL SEAL

DESIGN TEAM

EP, AO

PRINCIPAL

BS

PROJECT MANAGER

EP

PROJECT ARCHITECT

EP

DRAWN BY

FH

CHECKED BY

EP

ASDP/SSDP/SV RESUBMITTAL

REVISIONS										
No.	DATE	DESCRIPTION								
1	10/3/2019	30% CD								
2	4/1/2020	ASDP								
3	4/12/2021	ASDP REVISION #1								
4	9/8/2021	ASDP REVISION #2								
5	4/12/2022	ASDP/SSDP/SV								

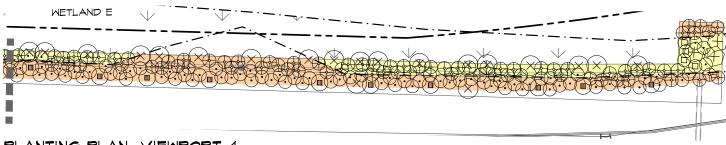
PLANTING PLAN

W3.0

SSUE DATE 4/12/2021

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PLANTING PLAN: VIEWPORT 4

<u>PLAN LEGEND</u>

PROPERTY LINE EXISTING WETLANDS

PLANT LIST

SMALL TREES/LARGE SHR	UBS
SYMBOL SCIENTIFIC NAME	COMMON NA

(F) CRATAEGUS DOUGLASII BLACK HAWTHORN OEMLERIA CERASIFORMIS

SALIX SCOULERIANA SCOULER WILLOW $\langle + \rangle$ SALIX SITCHENSIS

SAMBUCUS RACEMOSA RED ELDERBERRY

MASSING SHRUBS SYMBOL SCIENTIFIC NAME

CORNUS ALBA (SERICEA) RED-OSIER DOGWOOD LONICERA INVOLUCRATA BLACK TWIN-BERRY ROSA PISOCARPA CLUSTERED WILD ROSE

 \ominus RUBUS SPECTABILIS SALMONBERRY SPIREA DOUGLASII WESTERN SPIREA

COMMON NAME

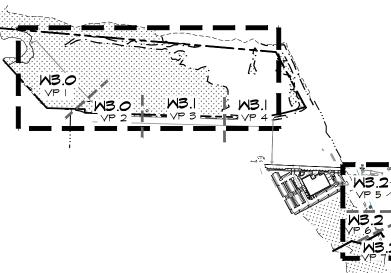
(NATIVE WETLAND GRASS SEED MIX)**

SYMBOL SCIENTIFIC NAME COMMON NAME GLYCERIA OCCIDENTALIS WESTERN MANNAGRASS BECKMANNIA SYZIGACHNE AMERICAN SLOUGHGRASS HORDEUM BRACHYANTHERUM MEADOW BARLEY ALOPECURUS AEQUALIS SHORTAWN FOXTAIL

(NATIVE UPLAND GRASS SEED MIX)**

SYMBOL SCIENTIFIC NAME COMMON NAME ELYMUS GLAUCUS BLUE WILDRYE BROMUS CARINATUS CALIFORNIA BROME HORDEUM BRACHYANTHERUM MEADOW BARLEY FESTUCA ROMERI ROEMER'S FESCUE DESCHAMPSIA ELONGATA SLENDER HAIRGRASS AGROSTIS EXARATA SPIKE BENTGRASS DESCHAMPSIA CESPITOSA TUFTED HAIRGRASS FESTUCA RUBRA RUBRA RED FESCUE

** NATIVE GRASS SEED MIXES WILL BE USED AS A FAST GROWING GROUNDCOVER IN MANY AREAS THAT WILL REDUCE THE RESURGENCE OF REED CANARYGRASS WHILE SHRUB PLANTINGS GROW UP TO SHADE OUT THIS NAME OF SEPTIMES. INVASIVE SPECIES.



PLANTING PLAN KEY

SCALE: I"=300'

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HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



1595 NW GILMAN BLVD ISSAQUAH WA, 98027

EP. AO PRINCIPAL PROJECT MANAGE PROJECT ARCHITECT DRAWN BY FH

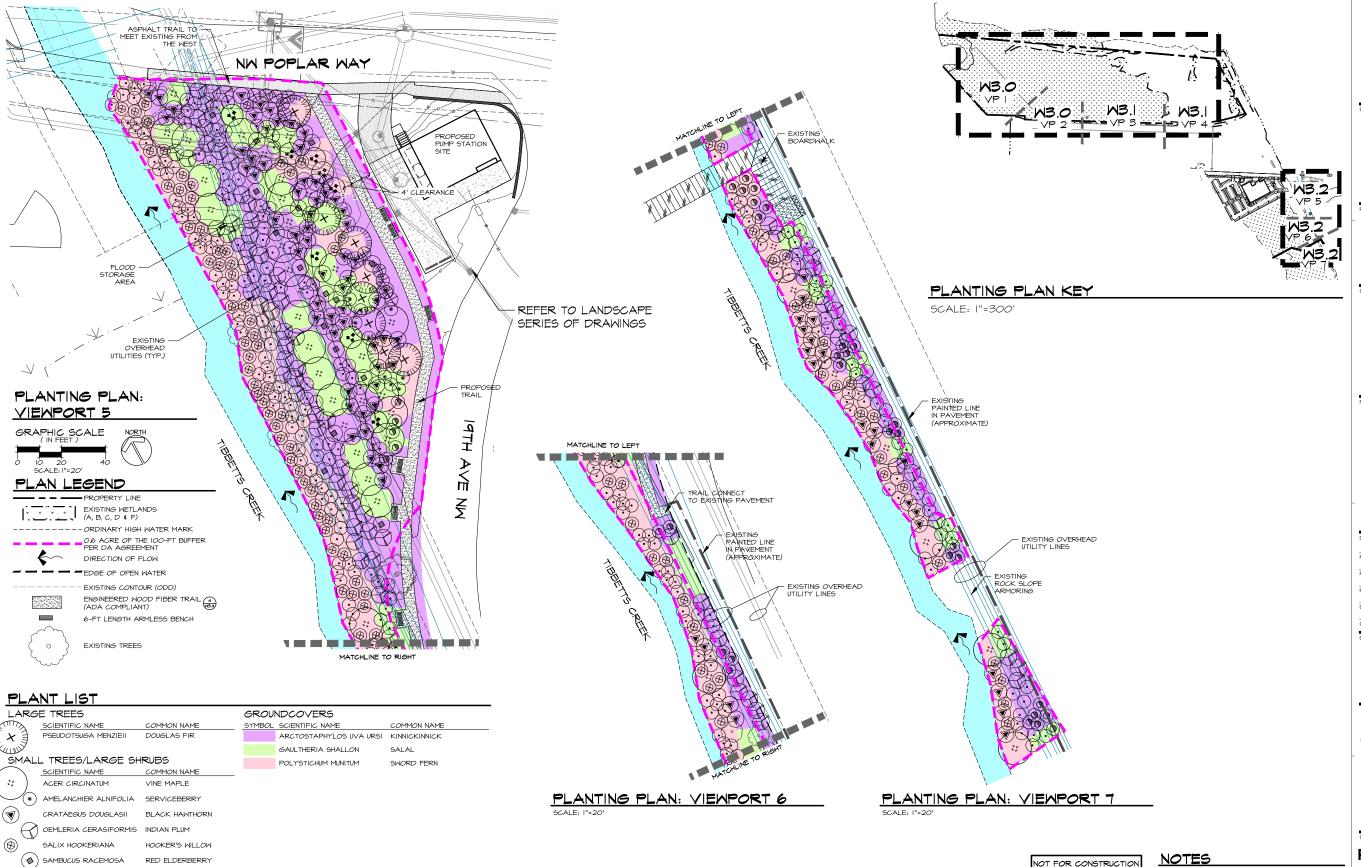
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No. 1 2 3 4 5	DATE 10/3/2019 4/1/2020 4/12/2021 9/8/2021 4/12/2022	DESCRIPTION 30% CD ASDP ASDP REVISION #1 ASDP REVISION #2 ASDP/SSDP/SV

PLANTING PLAN

W3.1

4/12/2021



MASSING SHRUBS SCIENTIFIC NAME

RUBUS PARVIFLORUS

RUBUS SPECTABILIS

ROSA PISOCARPA

SPIREA DOUGLASII

COMMON NAME

THIMBLEBERRY

SALMONBERRY

CLUSTERED WILD ROSE

CORNUS ALBA (SERICEA) RED-OSIER DOGWOOD

(LONICERA INVOLUCRATA BLACK TWIN-BERRY

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HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



ISSAQUAH WA, 98027

DESIGN TEAM	
	EP, AO
PRINCIPAL	BS
PROJECT MANAGER	EP
PROJECT ARCHITECT	EP
DRAWN BY	FH

ASDP/SSDP/SV **RESUBMITTAL**

REVISIONS										
No. 1 2 3 4 5	DATE 10/3/2019 4/1/2020 4/12/2021 9/8/2021 4/12/2022	DESCRIPTION 30% CD ASDP ASDP REVISION #1 ASDP REVISION #2 ASDP/SSDP/SV								
SUCCE TITLE										

PLANTING PLAN

W3.2

4/12/2021

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(206) 622-5822. SOURCE DRAWING WAS MODIFIED BY

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SMALL TREES/LARGE SHRUBS

,		SCIENTIFIC NAME	COMMON NAME	STATUS	-1	2	3	4	SPACING	SIZE (MIN.)	NOTES
	<i>‡‡</i>	ACER CIRCINATUM	VINE MAPLE	FAC	-	-	40	-	AS SHOWN	4' HT.	SINGLE TRUNK, WELL BRANCHED
	*) AMELANCHIER ALNIFOLIA	SERVICEBERRY	FACU	-	-	9	-	5' O.C.	24" HT.	MULTI-CANE (3 MIN.)
(''	CORYLUS CORNUTA	WESTERN HAZELNUT	FACU	-	-	8	-	AS SHOWN	4-5' HT.	SINGLE TRUNK, WELL BRANCHED
	\bigcirc	CRATAEGUS DOUGLASII	BLACK HAWTHORN	FAC	131	-	84	-	5' O.C.	24" HT.	MULTI-STEM
	\bigcirc	OEMLERIA CERASIFORMIS	INDIAN PLUM	FACU	-	-	75	-	5' O.C.	24" HT.	MULTI-STEM
	⊗) SALIX HOOKERIANA	HOOKER'S WILLOW	FACH	-	-	277	-	3/SYMBOL	4' CUTTING	½" DIA. MIN., BARK INTACI
($(+)_{-}$	SALIX SCOULERIANA	SCOULER WILLOW	FAC	36	213	-	-	3/SYMBOL	4' CUTTING	½" DIA. MIN., BARK INTACT
	(+)	SALIX SITCHENSIS	SITKA WILLOW	FACH	171	-	-	342	3/SYMBOL	4' CUTTING	½" DIA. MIN., BARK INTACT
	(M)	SAMBUCUS RACEMOSA	RED ELDERBERRY	FACU	26	45	16	-	5' O.C.	24" HT.	MULTI-CANE (3 MIN.)

MASSING SHRUBS

SYMBOL SCIENTIFIC NAME	COMMON NAME	STATUS	- 1	2	3	4	SPACING	SIZE (MIN.)	NOTES
ORNUS ALBA (SERICEA)	RED-05IER DOGWOOD	FACH	II2	261	208	-	4' O.C.	I GAL.	MULTI-CANE (3 MIN.)
LONICERA INVOLUCRATA	BLACK TWIN-BERRY	FAC	136	-	-	-	4' O.C.	I GAL.	MULTI-CANE (3 MIN.)
ROSA NUTKANA	NOOTKA ROSE	FACU	-	-	33	-	4' O.C.	I GAL.	MULTI-CANE (3 MIN.)
ROSA PISOCARPA	CLUSTERED WILD ROSE	FAC	108	-	-	-	4' O.C.	I GAL.	MULTI-CANE (3 MIN.)
RUBUS PARVIFLORUS	THIMBLEBERRY	FACU	-	-	42	-	4' O.C.	I GAL.	MULTI-CANE (3 MIN.)
RUBUS SPECTABILIS	SALMONBERRY	FAC	88	-	-	-	4' O.C.	I GAL.	MULTI-CANE (3 MIN.)
SPIREA DOUGLASII	WESTERN SPIREA	FACH	133	224	-	-	4' O.C.	I GAL.	FULL & BUSHY

QTY /7ONE

GROUNDCOVERS

			ML		QTY	ZONE				
SYMBOL	SCIENTIFIC NAME	COMMON NAME	STATUS	1	2	3	4	SPACING	SIZE (MIN.)	NOTES
	ARCTOSTAPHYLOS UVA-URSI	KINNICKINNICK	FACU	-	-	3,090	-	2' O.C.	I GAL	FULL & BUSHY
	GAULTHERIA SHALLON	SALAL	FACU	-	-	1,456	-	2' O.C.	I GAL.	FULL & BUSHY
	POLYSTICHUM MUNITUM	SWORD FERN	FACU	-	-	2,909	-	2' O.C.	I GAL.	FULL & BUSHY

NATIVE WETLAND GRASS SEED MIX** (20-25 LBS/ACRE)

				ML		QTY./ZONE				
SYMBOL	SCIENTIFIC NAME	COMMON NAME	%	STATUS		2	3	4	UNITS	
	GLYCERIA OCCIDENTALIS	WESTERN MANNAGRASS	30	0BL	13	- 1	-	-	LBS.	٦
	BECKMANNIA SYZIGACHNE	AMERICAN SLOUGHGRASS	60	0BL						_
	HORDEUM BRACHYANTHERUM	MEADOW BARLEY	10	FACH						
	AL OPECURUS AFGUALIS	SHORTAWN FOXTAIL	10	OBI						

NATIVE UPLAND GRASS SEED MIX** (20-25 LBS/ACRE)

SYMBOL	SCIENTIFIC NAME	COMMON NAME	%	STATUS	1	2	3	4	UNITS
	ELYMUS GLAUCUS	BLUE WILDRYE	30	UPL	- 1	8	7	-	LBS.
	BROMUS CARINATUS	CALIFORNIA BROME	25	NL					
	HORDEUM BRACHYANTHERUM	MEADOW BARLEY	10	FACH					
	FESTUCA ROMERI	ROEMER'S FESCUE	10	NL					
	DESCHAMPSIA ELONGATA	SLENDER HAIRGRASS	10	FACH					
	AGROSTIS EXARATA	SPIKE BENTGRASS	5	FACH					
	DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	5	FACH					
	FESTUCA RUBRA RUBRA	RED FESCUE	5	NL					

** NATIVE GRASS SEED MIXES WILL BE USED AS A FAST GROWING GROUNDCOVER IN MANY AREAS THAT WILL REDUCE THE RESURGENCE OF REED CANARYGRASS WHILE SHRUB PLANTINGS GROW UP TO SHADE OUT THIS INVASIVE SPECIES.

GENERAL PLANT INSTALLATION NOTES

- PLANT TREES AND/OR SHRUBS I" HIGHER THAN DEPTH GROWN AT NURSERY
- ROOTBALL IF ROOT CIRCLING IS EVIDENT.
- STAKE DECIDIOUS AND EVERGREEN TREES 4 FEET AND OVER IN HEIGHT WITH ONE (I) STAKE PER TREE, STAKE STARE DECIDIOUS AND EVERACED RELES 4 FEET AND OVER IN THE OUTER EDGE OF THE ROOTS OR ROOTS ALL, IN LINE WITH THE PREVAILING WIND, STAKES SHALL BE LOOSELY ATTACHED USING CHAIN-LOCK TREE TIES TO ALLOW FOR SOME TRUNK MOVEMENT. STAKES TO BE VERTICAL, PARALLEL, EVEN-TOPPED, UNSCARRED AND DRIVEN INTO MONICHINED CURRENT DRIVEN BY LOTHER TO BE A LOOKED TO B
- SUPER TRUNK PROVENENT. STAKES TO BE VERTICAL, PARALLEL, EVEN-TOPPED, MISCARRED AND DRIVEN INTO UNDISTURBED SUBGRADE. REMOVE AFTER ONE YEAR.
 WATER PLANTS IMMEDIATELY UPON PLANTING, THEN PROVIDE MANUAL WATERING OR A TEMPORARY IRRIGATION SYSTEM TO PREVENT PLANT MORTALITY AND ENSURE PROPER PLANT ESTABLISHMENT. PLANTS SHALL RECEIVE A STSTEM TO PREVENT PLANT MORTALTIT AND ENSURE PROPER PLANT ESTABLISHMENT. PLANTS SHALL RECEIVE A MINIMUM OF APPROXIMATELY ONE INCH OF WATER EVERY WEEK DURING THE DRY SEASON (GENERALLY JUNE 15TH - OCTOBER 15TH, OR EARLIER OR LATER IF CONDITIONS WARRANT) FOR THE FIRST SEASON AFTER PLANTING. IRRIGATION AMOUNTS MAY NEED TO BE INCREASED DURING PROLONGED PERIODS OF HOT, DRY WEATHER. IN THE BUFFER AREAS ONLY, FERTILIZE ALL TREES AND SHRUBS WITH A SLOW-RELEASE GENERAL PURPOSE GRANULAR FERTILIZER OR SLOW-RELEASE TABLETS AT MANUFACTURER'S SPECIFIED RATE. NO FERTILIZER SHALL BE APPLIED WITHIN WETLAND AREAS.
- IN THE BUFFER AREAS ON Y. A SOIL MOISTURE RETENTION AGENT, SUCH AS "SOIL MOIST" OR EQUAL, SHALL BE
- INCORPORATED INTO THE BACKFILL OF EACH PLANTING PIT, PER MANUFACTURER'S INSTRUCTIONS, NO MOISTURE RETENTION AGENT SHALL BE APPLIED WITHIN METLAND AREAS.

PLANTING DENSITY TABLES

ZONE I: PLANTING DENSITY TABLE - WETLAND E

	REQUIRED	DESIGNED	
PLANTED AREA	28,T	16 SF	
TREES 9' O.C.*	0	0	
SHRUBS 6' O.C.	805	941	
GROUNDCOVER 2' O.C.**	7,194/ 28,776 SF	7,194/ 258,776 SF	

- PER CITY OF ISSAQUAH, NO TREES WILL BE PLANTED WITHIN STORMWATER EASEMENTS.
- ** GRASS SEED MIXED BE AT 100% COVERAGE

ZONE 2: PLANTING DENSITY TABLE - WETLAND E BUFFER

	REQUIRED	DESIGNE			
PLANTED AREA	13,025 SF				
TREES 9' O.C.*	0	0			
SHRUBS 6' O.C. (FULL COVERAGE)	361	743			
GROUNDCOVER 2' O.C.** (50% COVERAGE)	1,628/ 6,513 SF	1,628/ 6,513 SF			

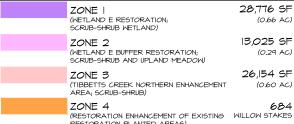
- PER CITY OF ISSAQUAH, NO TREES WILL BE PLANTED WITHIN STORMWATER FASEMENTS
- ** GRASS SEED MIXED BE AT 100% COVERAGE

ZONE 3: PLANTING DENSITY TABLE - TIBBETTS CREEK BUFFER

PLANTED AREA TREES 9' O.C.* SHRUBS 6' O.C.	REQUIRED	DESIGNED	
PLANTED AREA	26,15	4 SF	
TREES 9' 0.C.*	0	8	
SHRUBS 6' O.C.	724	1,523	
GROUNDCOVER 2' O.C.	6,539	7,455	

EXTENSIVE OVERHEAD AND UNDERGROUND UTILITIES IN THIS AREA PREVENT THE USE OF LARGE TREES ON WITHIN MUCH OF THE RESTORED BUFFER. COMIFERS HILL BE PLACED IN THE FIELD IN A LIMITED FASHION.

PLANT COMMUNITIES LEGEND



RESTORATION PLANTED AREAS) AREA OF MAINTENANCE ACCESS THROUGH VOLUNTEER PLANTING: 8,237 SF X 0.02TI (6' O.C.) = 228 X 3 3 WILLOW STAKES PER PLANTING TO INFILL AREAS WHERE EXISTING WILLOW STAKES ARE NO' O.C.

VIEWPORT 2: PLANT COMMUNITIES

VIEWPORT PLANT COMMUNITIES KEY VIEWPORT 2

VIEWPORT I: PLANT COMMUNITIES

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NOT FOR CONSTRUCTION THESE PLANS HAVE BEEN SUBMITTED TO THE APPROPRIATE AGENCIES FOR REVIEW AND APPROVAL, UNTIL APPROVED, THESE PLANS ARE:

SUBJECT TO REVISION



Know what's below. Call before you dig.

<u>NOTES</u>

- SURVEY PROVIDED BY BUSH, ROED, &
- HITCHINGS INC., 2009 MINOR AVE E SEATTLE, MA 48/102-35/13, (206) 323-4144.
 SITE PLAN PROVIDED BY KPFF, (60) 5TH AVE SUITE (600 SEATTLE, WA 48/101), ORDER (600
- SOURCE DRAWING WAS MODIFIED BY TALASAEA CONSULTANTS FOR VISUAL ENHANCEMENT. (206) 622-5822.
- THIS PLAN IS AN ATTACHMENT TO THE
 - CRITICAL AREAS REPORT PREPARED BY TALASAEA CONSULTANTS IN MAY, 2021.

Seattle WA 98101 206.622.5822 www.kpff.com



HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



EP. AO PRINCIPAL RS PROJECT ARCHITECT DRAWN BY FH

ASDP/SSDP/SV **RESUBMITTAL**

EP

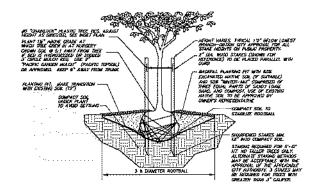
DESCRIPTION 10/3/2019 30% CD 9/8/2021 ASDP REVISION #2 4/12/2022 ASDP/SSDP/SV

> **PLANT SCHEDULE &** NOTES

W3.3

4/12/2021

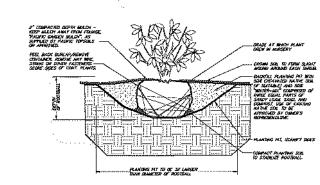
MANTAN THE THEE IN COOR HEALTH AFTER CHLINERY. HEAL OF MY EAST SKIEWST IF HOT MAKEUGTELT FLANT HONDIE ANY WILL STRIKE DINEAP OR OTHER FASTENER FROM REOTENEL PROP TO PLACEMENT REMONE TROM SITE. BODY CROWN ALAKE TO BE ARONE GRADE & NOT BUR



TYPICAL TREE PLANTING

TYPICAL TREE PLANTING DETAIL NOT TO SCALE

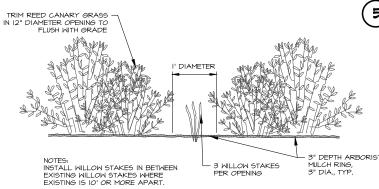
NOTE: STANDARD DETAILS PER DEVELOPER'S AGREEMENT APPENDIX G, LANDSCAPE.



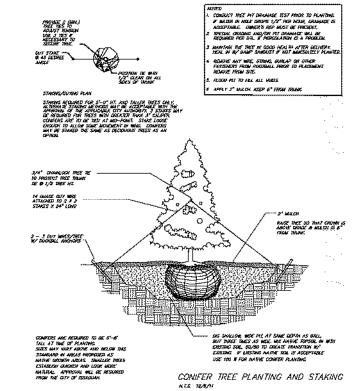
TYPICAL SHRUB PLANTING

2 TYPICAL SHRUB PLANTING DETAIL

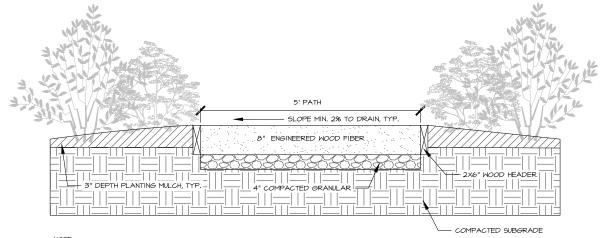




MILLOW STAKES
NOT TO SCALE



3 TYPICAL CONIFER TREE PLANTING DETAIL NOT TO SCALE



NOTE:

. WOOD SHALL BE CEDAR

2. ALL FASTENERS SHALL BE STAINLESS STEEL

3. ENSURE TRAIL IS COMPACTED ADEQUATELY TO PREVENT SETTLEMENT AND PONDING

4. ENSURE ENGINEERED WOOD FIBER (EWF) IS UNITERATED. SAMPLE AND MATERIALS DATA MUST BE SUBMITTED FOR REVIEW TO CONSULTANT

ENGINEERED WOOD FIBER ADA COMPLIANT TRAIL SURFACE DETAI

NOT FOR CONSTRUCTION THESE PLANS HAVE BEEN SUBMITTED TO THE APPROPRIATE AGENCIES FOR REVIEW AND APPROVAL, UNTIL APPROVED, THESE PLANS ARE:

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 SITE PLAN PROVIDED BY KPFF, 1601 5TH AVE
 SUITE 1600 SEATTLE, WA 98/01,
 (206) 622-5622.
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206.622.5822 www.kpff.com



HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



ISSAQUAH WA, 98027

PROJECT ARCHITECT DRAWN BY

ASDP/SSDP/SV **RESUBMITTAL**

FH

10/3/2019 30% CD 4/12/2021 9/8/2021 ASDP REVISION #2 4/12/2022

> **PLANTING DETAILS**

W3.4

4/12/2021

GRASSPAVE2

E: 6" COMPACTED BASE COURSE PER MANUFACTURER RECOMMENDATION

II SEQUENCING A. GENERAL CONSTRUCTION

- I. CONTRACTOR SHALL GIVE THE PROJECT BIOLOGIST OR ECOLOGIST A MINIMUM OF TEN (IO)
- DAY'S NOTICE PRIOR TO COMMENCING CONSTRUCTION.

 2.NO CONSTRUCTION WORK SHALL COMMENCE UNTIL THERE IS A MEETING BETWEEN THE CLIENT, THE PROJECT BIOLOGIST OR ECOLOGIST, THE GENERAL, CLEARING, AND/OR CLIENT, THE PROJECT BIOLOGIST ON EDUCATION, THE APPROVED PLANS AND JOB CARTHAGRAN CONTRACTORS, AND THE LANDSCAPE CONTRACTOR. THE APPROVED PLANS AND SPECIFICATIONS SHALL BE REVIEWED TO ENSURE THAT ALL PARTIES INVOLVED UNDERSTAND THE INTERN AND THE SPECIFIC DETAILS RELATED TO THE CONSTRUCTION DOCUMENTS, SPECIFICATIONS, AND SITE CONSTRAINTS.
- 3 LOCATIONS OF EXISTING UTILITIES HAVE BEEN ESTABLISHED BY FIELD SURVEY OR LOCATIONS OF EAST THE OTHER HAVE BEEN ESTABLISHED BY FIELD SURVEY OF OBTAINED FROM AVAILABLE RECORDS AND SHOULD BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO; (1) INDEPENDENTLY VERIFY THE ACCURACY OF UTILITY LOCATIONS, AND (2) DISCOVER AND AVOID ANY UTILITIES WITHIN THE MITIGATION AREA(S) THAT ARE NOT SHOWN, BUT WHICH MAY BE AFFECTED BY IMPLEMENTATION OF THE PLAN, SUCH AREA(S) ARE TO BE CLEARLY MARKED IN THE FIELD. THE PROJECT BIOLOGIST OR ECOLOGIST SHALL RESOLVE ANY CONFLICTS WITH THE APPROVED GRADING PLAN PRIOR TO START OF CONSTRUCTION.
- 4.A COPY OF THE APPROVED PLANS MUST BE ON SITE WHENEVER CONSTRUCTION IS IN PROGRESS, AND SHALL REMAIN ON SITE UNTIL PROJECT COMPLETION.
- 5 CONSTRUCTION MUST BE PERFORMED IN ACCORDANCE WITH ALL AGENCY STANDARDS RULES, CODES, PERMIT CONDITIONS, AND/OR OTHER APPLICABLE ORDINANCES AND
- 6. THE PROJECT OWNER/APPLICANT IS RESPONSIBLE FOR OBTAINING ANY OTHER RELATED
- OR REQUIRED PERMITS PRIOR TO THE START OF CONSTRUCTION.

 7. A QUALIFIED WETLAND CONSULTANT SHALL BE ON SITE, AS NECESSARY, TO MONITOR CONSTRUCTION AND APPROVE MINOR REVISIONS TO THE PLAN.
- 8.DURING CONSTRUCTION, THE CONTRACTOR MUST USE MATERIALS AND CONSTRUCTION METHODS THAT PREVENT TOXIC SUBSTANCES AND OTHER POLLUTANTS FROM ENTERING MITIGATION AREAS OR OTHER NATURAL WATERS OF THE STATE.
- 9. PREVENTATIVE MEASURES SHALL BE USED TO PROTECT EXISTING STORM DRAINAGE SYSTEMS, EXISTING UTILITIES, AND ROADS.
- 0. PROVIDE SEDIMENT AND EROSION CONTROLS AROUND THE PROJECT AREA PRIOR TO SOIL DISTURBANCE FROM CONSTRUCTION ACTIVITY.
- B. <u>MITIGATION CONSTRUCTION</u>: THE FOLLOWING PROVIDES THE GENERAL SEQUENCE OF ACTIVITIES ANTICIPATED TO BE NECESSARY TO COMPLETE THE PLANTING PORTION OF THE MITIGATION PROJECT, SOME OF THESE ACTIVITIES MAY BE CONDUCTED CONCURRENTLY AS THE PROJECT PROGRESSES.
- CONDUCT A SITE MEETING BETWEEN THE CONTRACTOR, THE PROJECT BIOLOGIST OR ECOLOGIST, AND THE OWNER'S REPRESENTATIVE TO REVIEW THE PROJECT PLANS, STAGING/STOCKPILE AREAS, AND MATERIAL DISPOSAL AREAS.
- 2. PLANT TREES AND SHRUBS AS INDICATED ON MITIGATION PLANS
- 3 PLANT STAKES (CUTTINGS)
- 4. MULCH NEWLY INSTALLED PLANTS.
- 5. INSTALL TEMPORARY IRRIGATION SYSTEM AND PROGRAM FOR 0.5 INCHES OF WATER EVERY 3 DAYS.
- 6.INSTALL FENCING AND CRITICAL AREA PROTECTION SIGNS.

- A. PRODUCT DATA: FURNISH THE FOLLOWING WITH EACH PLANT MATERIAL DELIVERY I INVOICES INDICATING SIZES AND VARIETY OF PLANT MATERIAL
- 2. CERTIFICATES OF INSPECTION REQUIRED BY STATE AND FEDERAL AGENCIES.
- B. QUALITY CONTROL SUBMITTALS:
- PRIOR TO DELIVERY OF MATERIALS, CERTIFICATES OF COMPLIANCE ATTESTING THAT MATERIALS MEET THE SPECIFIED REQUIREMENTS SHALL BE FURNISHED FOR THE FOLLOWING: PLANTS, TOPSOIL, FERTILIZER, AND ORGANIC MULCH. CERTIFIED COPIES OF THE MATERIAL CERTIFICATES SHALL INCLUDE THE FOLLOWING:
- lpha. PLANT MATERIALS: BOTANICAL NAME, COMMON NAME, SIZE, QUANTITY BY SPECIES, AND LOCATION WHERE GROWN.
- b.IMPORTED TOPSOIL: PARTICLE SIZE, PH, ORGANIC MATTER CONTENT, TEXTURAL CLASS, SOLUBLE SALTS, CHEMICAL AND MECHANICAL ANALYSES.
- G. FERTILIZER: CHEMICAL ANALYSIS AND PERCENT COMPOSITION

d.IMPORTED MULCH: COMPOSITION AND SOURCE.

1.3 REFERENCES

A. SIZE AND GRADING STANDARDS: SHALL CONFORM TO THE CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.

I.4 QUALITY ASSURANCE

- A. <u>MORKER'S QUALIFICATIONS</u>. THE PERSONS PERFORMING THE PLANTING AND THEIR SUPERVISOR(S) SHALL BE PERSONALLY EXPERIENCED WITH PLANTING AND CARING FOR PLANT MATERIAL, AND SHALL HAVE BEEN REGULARLY EMPLOYED BY A COMPANY ENGAGED IN PLANTING AND CARING FOR PLANT MATERIAL FOR A MINIMUM OF 2 YEARS.
- B. PLANT MATERIAL: ALL PLANT MATERIALS SHALL BE LOCALLY GROWN OR REGIONALLY ACCLIMATIZED TO THE PACIFIC NORTHWEST.

15 DELIVERY INSPECTION STORAGE AND HANDLING

- A <u>DELIVERY</u>. A <u>DELIVERY</u> SCHEDULE SHALL BE PROVIDED AT LEAST 10 CALENDAR DAYS FRIOR TO THE FIRST DAY OF DELIVERY. PLANT MATERIALS SHALL BE DELIVERED TO THE JOB SITE NOT MORE THAN 1 MORNING DAYS PRIOR TO THEIR RESPECTIVE PLANTING DATES.
- B. <u>PROTECTION DURING DELIVERY</u>. PLANT MATERIAL SHALL BE PROTECTED DURING DELIVERY TO PREVENT DESICCATION AND DAMAGE TO THE BRANCHES, TRUNK, ROOT SYSTEM, OR EARTH BALL. BRANCHES SHALL BE PROTECTED BY TYING-IN, EXPOSED BRANCHES SHALL BE COVERED DURING TRANSPORT.
- C. <u>FERTILIZER</u>, FERTILIZER SHALL BE DELIVERED IN MANUFACTURER'S STANDARD SIZED BAGS SHOWING WEIGHT, ANALYSIS, AND MANUFACTURER'S NAME. STORE UNDER A WATERPROOF COVER OR IN A DRY PLACE AS DESIGNATED BY THE OWNER'S REPRESENTATIVE.
- D. INSPECTION: ALL PLANT MATERIALS SHALL BE INSPECTED UPON ARRIVAL AT THE JOB SITE BY THE OWNER'S REPRESENTATIVE FOR CONFORMITY TO TYPE AND QUANTITY WITH REGARD TO THEIR RESPECTIVE SPECIFICATIONS.
- E. <u>MULCH.</u> A MULCH SAMPLE SHALL BE INSPECTED BY THE PROJECT BIOLOGIST OR ECOLOGIST PRIOR TO THE MULCH BEING DELIVERED TO THE SITE.

F. STORAGE:

- I. PLANT MATERIAL NOT INSTALLED ON THE DAY OF ARRIVAL AT THE SITE SHALL BE PLANT MATERIAL NOT INSTALLED ON THE DATA OF ARRIVAL AT THE SHE SHALL BE STORED AND PROTECTED IN DESIGNATED AREAS, PLANTS STORED ON THE PROJECT SHE SHALL BE PROTECTED FROM EXTREME WEATHER CONDITIONS BY INSULATING THE ROOTS, ROOT BALLS OR CONTAINERS WHITH SAMPLIDES, OLIL, COMPOST, BARK OR WOODCHIPS, PLANT MATERIAL SHALL BE PROTECTED FROM DIRECT EXPOSURE TO WIND AND SUN. BARE-ROOT PLANT MATERIAL SHALL BE HELLED-IN. CUTTINES AND EMERGENT PLANTS WIST BE PROTECTED FROM DRYINGS AND SHALL BE HELLED-IN WHITH MOIST SOIL OR OTHER INSULATING MATERIAL. ALL PLANT MATERIAL STORED ON-SITE SHALL BE WATERED DAILY UNTIL INSTALLED.
- 2. STORAGE OF OTHER MATERIALS SHALL BE IN DESIGNATED AREAS.

I.6 SCHEDULING

- A. PLANTING SEASON: INSTALL WOODY PLANTS BETWEEN OCTOBER I AND FEBRUARY IS WHENEVER THE TEMPERATURE IS ABOVE 32 DEGREES F AND THE SOIL IS IN A WORKABLE CONDITION, UNLESS OTHERWISE APPROVED IN WRITING, CUTTINGS SHALL ONLY BE USED IF PLANTING OCCURS BETWEEN DECEMBER IST AND APRIL IST.
- B. PLANT INSTALLATION: EXCEPT FOR CONTAINER-GROWN PLANT MATERIAL. THE MAXIMUM SING AND INSTALLATION OF PLANT MATERIAL SHALL BE 21 DAYS THE MAXIMUM TIME BETWEEN PLANT INSTALLATION AND MULCH PLACEMENT SHALL BE 72

IT WARRANTY

- A. WARRANTY PERIOD: THE CONTRACTOR-PROVIDED WARRANTY SHALL EXTEND FOR A PERIOD OF ONE YEAR FROM THE DATE OF PHYSICAL COMPLETION, PHYSICAL COMPLETION FOR THE MORK OF THIS SECTION IS THE DATE WHEN ALL GRADING, PLANTING, IRRIGATION, AND RELATED WORK HAS BEEN COMPLETED AND IS ACCEPTED BY THE OWNERS, REPRESENTATIVE, THE PROJECT BIOLOGIST OR ECOLOGIST, AND APPLICABLE AGENCIES.
- B. <u>WARRANTY TERMS</u>. CONTRACTOR'S WARRANTY SHALL INCLUDE REPLACEMENT OF PLANTS DUE TO MORTALITY (SAME SIZE AND SPECIES SHOWN ON THE DRAWINGS). PLANTS REPLACED UNDER THIS WARRANTY SHALL BE WARRANTED FOR AN ADDITIONAL YEAR AFTER REPLACEMENT
- C. EXCEPTIONS: LOSS DUE TO EXCESSIVELY SEVERE CLIMATOLOGICAL CONDITIONS (SUBSTANTIATED BY IO-YEAR RECORDED WEATHER CHARTS), OR CASES OF NEGLECT BY OWNER, OR CASES OF ABUSE/DAMAGE BY OTHERS

PART 2: PRODUCTS AND MATERIALS

A. <u>GENERAL:</u> ALL PLANT MATERIAL WILL CONFORM TO THE VARIETIES SPECIFIED OR SHOWN IN THE PLANT LIST(S) INDICATED ON THE MITIGATION PLANS AND BE TRUE TO BOTANICAL NAME AS LISTED IN: HITCHCOCK, C.L., AND A. CRONGUIST, 1913, FLORA OF THE PACIFIC NORTHWEST, UNIVERSITY OF WASHINGTON PRESS.

B. SHRUBS AND TREES:

- I. THE PROJECT BIOLOGIST OR ECOLOGIST SHALL EXAMINE PLANT MATERIAL PRIOR TO PLANTING, ANY MATERIAL NOT MEETING THE REQUIRED SPECIFICATIONS SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND REPLACED WITH LIKE MATERIAL THAT MEETS THE REQUIRED STANDARDS, PLANT MATERIAL SHALL MEET THE REQUIREMENTS OF STATE AND FEDERAL LAWS WITH RESPECT TO PLANT DISEASE AND INTESTATIONS, INSPECTION CERTIFICATES, REQUIRED BY LAM, SHALL ACCOMPANY EACH AND EVERY SHIPMENT AND SHALL BE SUBMITTED TO THE PROJECT BIOLOGIST OR ECOLOGIST UPON CONTRACTOR'S RECEIPT OF PLANT MATERIAL.
- 2. PLANT MATERIALS SHALL BE LOCALLY GROWN (WESTERN WASHINGTON, WESTERN OREGON OR WESTERN BC), HEALTHY, BUSHY, IN VIGOROUS GRONING CONDITION, AND GUARANTEED TO BE TRUE TO SIZE, NAME, AND VARIETY. IF REPLACEMENT OF PLANT MATERIAL IS NECESSARY DUE TO CONSTRUCTION DAMAGE OR PLANT FAILURE WITHIN ONE YEAR OF INSTALLATION, THE SIZES, SPECIES, AND QUANTITIES SHALL BE EQUAL TO SPECIFIED PLANTS AS INDICATED ON THE PLANS
- 3. PLANTS SHALL BE NURSERY GROWN, WELL-ROOTED, OF NORMAL GROWTH AND CHARACTER, AND FREE FROM DISEASE OR INFESTATION, THE PROJECT BIOLOGIST OR ECOLOGIST RESERVES THE RIGHT TO REQUIRE REPLACEMENT OR SUBSTITUTION OF ANY PLANTS DEEMED UNSUITABLE.
- 4. TREES SHALL HAVE UNIFORM BRANCHING, SINGLE STRAIGHT TRUNKS (UNLESS SPECIFIED AS MULTI-STEM, MULTI-CANE, OR MULTI-TRUNK), AND AN INTACT AND UNDAMAGED CENTRAL LEADER. CONTAINER STOCK SHALL HAVE BEEN GROWN IN A CONTAINER FOR AT LEAST ONE FULL GROWING SEASON AND SHALL HAVE A NEEL DEVELOPED ROOT SYSTEM. PLA MATERIAL THAT IS ROOT-BOUND OR HAS DAMAGED ROOT ZONES OR BROKEN ROOT BALLS WILL NOT BE ACCEPTED.
- DALLS VILL NOT DE ACCEPTED.

 S. CONIFEROUS TREES SHALL BE NURSERY GROWN, FULL AND BUSHY, WITH UNIFORM BRANCHING AND A NATURAL, NON-SHEARED FORM, ORIGINAL CENTRAL LEADER MUST BE HEALTHY AND UNDAMAGED. MAXIMUM GAP BETWEEN BRANCHING SHALL NOT EXCEED 9 INCHES, AND LENGTH OF TOP LEADER SHALL NOT EXCEED 12 INCHES.
- $6. {
 m SHRUBS}$ SHALL HAVE A MINIMUM OF THREE STEMS AND SHALL BE A MINIMUM HEIGHT OF 18 INCHES.
- 7. TREES AND SHRUBS SHALL HAVE DEVELOPED ROOT AND BRANCH SYSTEMS. DO NOT PRINE BRANCHES BEFORE DELIVERY.
- & NATIVE PLANT CUTTINGS SHALL BE GROWN AND COLLECTED IN THE MARITIME PACIFIC .NATIVE PLANT CUTTINGS SHALL BE GROWN AND COLLECTED IN THE MARITIME PACIFIC MORTHHEST. CUTTINGS SHALL BE OF ONE TO THOO'T-BAR-OLD MOOD, 'S INCH DIAMETER MINIMM, CUTTINGS SHALL BE A MINIMM OF 4 FEET IN LENGTH WITH 4 LATERAL BUDS EXPOSED ABOVE GROUND A FIER PLANTING. THE TOP OF EACH CUTTINGS SHALL BE A MINIMM OF I INCH ABOVE A LEAF BUD, THE BOTTOM CUT 2 INCHES BELOW A BUD. THE BOAL ENDS OF THE CUTTINGS SHALL BE CUT AT A 45 DEGREE ANGLE AND MARKED CLEARLY SO THAT THE ROOTING BID IS PLANTED IN THE SOLL. CUTTINGS MUST BE KEPT COVERED AND MOIST DURING STORAGE AND TRANSPORT, AND NO CUTTINGS SHALL BE STORED MORE THAN THREE DAY'S FROM DATE OF CUTTING, CUTTINGS SHALL ONLY BE USED IF PLANTING OCCURS BETWEEN DECEMBER IST AND APRIL IST. FOR PLANTING BETWEEN APRIL IST AND DECEMBER IST, CONTAINER PLANTS SHALL BE USED.
- 9. PLANTS SHALL BE FREE OF SPLITS AND CHECKS, BARK ABRASIONS, AND DISFIGURING
- FOR DECIDUOUS PLANTS, BUDS SHALL BE INTACT AND REASONABLY CLOSED AT TIME OF PLANTING, IF DORMANT II. BALLED AND BURLAPPED PLANTS SHALL HOLD A NATURAL BALL. MANUFACTURED ROOT BALLS ARE UNACCEPTABLE.
- 12.PLANTS SHALL CONFORM TO SIZES INDICATED ON THE PLANT SCHEDULE. PLANTS

MAY BE LARGER THAN THE MINIMUM SIZES SPECIFIED.

- I. SEED MIXES SHALL BE PROVIDED AS DESCRIBED IN THE PLANT SCHEDULE.
- D, NOXIOUS SPECIES: ALL PLANT STOCK AND OTHER RE-VEGETATION MATERIALS SHALL BE FREE FROM THE SEED OR OTHER PLANT COMPONENTS OF ANY NOXIOUS OR INVASIVE SPECIES, AS IDENTIFIED BY THE KING COUNTY NOXIOUS WEED CONTROL BOARD.
- E SUBSTITUTIONS, SUBSTITUTIONS WILL NOT BE PERMITTED WITHOUT A WRITTEN REQUEST AND PPROVAL FROM THE OWNER'S REPRESENTATIVE, THE PROJECT BIOLOGIST OR ECOLOGIST,

2.2 PLANTING SOIL

- A. TOPSOIL: IF SUITABLE STOCKPILED NATIVE TOPSOIL IS NOT AVAILABLE FOR MITIGATION PLANTINGS, TOPSOIL SHALL BE OBTAINED FROM OUTSIDE SOURCES. STOCKPILED OR IMPORTED TOPSOIL SHALL BE FERTILE, FRIABLE, SANDY LOAM SURFACE SOIL, FREE OF SUBSOIL, GLAY LUMPS, BRUSH, WEEDS, ROOTS, STUMPS, STONES LARGER THAN I INCH IN ANY DIMENSION, LITTER, OR ANY OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT
- B. <u>ORGANIC CONTENT.</u> IMPORTED TOPSOIL SHALL CONSIST OF ORGANIC MATERIALS AMENDED AS NECESSARY TO PRODUCE A BULK ORGANIC CONTENT OF AT LEAST 10 PERCENT AND NOT GREATER THAN 20 PERCENT, AS DETERMINED BY AASHTO-T-14.
- C. <u>COMPOST</u>, COMPOST SHALL MEET THE DEFINITION FOR COMPOSTED MATERIALS AS DEFINED BY THE WASHINGTON STATE DEPARTMENT OF ECOLOGY.

D. SOIL AMENDMENTS (BUFFER AREAS ONLY):

- D. AFERTILIZER. WOODY PLANTINGS SHALL BE FERTILIZED WITH A SLOW-RELEASE GENERAL GRANULAR FERTILIZER (16-16-16), WITH APPLICATION RATES AS SPECIFIED BY MANUFACTURER. FERTILIZER SHALL BE APPLIED AFTER PLANTING PIT IS BACKFILLED, AND PRIOR TO APPLICATION OF MILCH. FERTILIZER SHALL NOT BE APPLIED BETWEEN NOVEMBER AND MARCH. NO FERTILIZER SHALL BE APPLIED WITHIN WETLAND AREAS.
- D.B. SOIL MOISTURE RETENTION AGENT: A SOIL MOISTURE RETENTION AGENT, SUCH AS "SOILMOIST" OR EQUAL, SHALL BE INCORPORATED INTO THE BACKFILL OF EACH PLANTING PIT, PER MANUFACTURER'S INSTRUCTIONS, NO MOISTURE RETENTION AGENT SHALL BE APPLIED WITHIN WETLAND AREAS.

A. ARBORIST WOOD CHIPS MUST BE COARSE GROUND WOOD CHIPS (APPROXIMATELY $\frac{1}{2}$ INCH TO 6 INCHES ALONG THE LONGEST DIMENSION, NO PARTICLES TO BE GREATER THAN δ INCHES LENGTH) DERIVED FROM THE MECHANICAL GRINDING OR SHREDDING OF THE ABOVE-GROUND PORTIONS OF TREES, IT MAY CONTAIN MOOD, MOOD FIBER, BARK, BRANCHES, AND LEAVES, BUT MAY NOT CONTAIN VISIBLE AMOUNTS OF SOILL. IT MUST BE FREE OF NEEDS AND WEED SEEDS INCLUNING COUNTY AND STATE LISTED NOXIOUS WEEDS AND MUST BE FREE OF INVASIVE PLANT PORTIONS CAPABLE OF RESPROUTING, INCLUDING BUT NOT LIMITED TO HORSETAIL, IVY, CLEMATIS, AND KNOTWEED. IT MAY NOT CONTAIN MORE THAN & PERCENT BY WEIGHT OF MANUFACTURED INERT MATERIAL (SUCH AS PLASTIC, CONCRETE, CERAMICS, OR

B. ARBORIST WOOD CHIP MULCH, WHEN TESTED, MUST MEET THE FOLLOWING LOOSE VOLUME

95%-100% FOR 2" 0%-100% FOR I"

0%-50% FOR 5/8"

0%-40% FOR I/4"

C. NO PARTICLES MAY BE LONGER THAN & INCHES.

- D. PRIOR TO DELIVERY, THE CONTRACTOR MUST PROVIDE THE FOLLOWING UPON REQUEST
- D.I. THE SOURCE OF THE PRODUCT AND SPECIES OF TREES INCLUDED IN IT
- D.2. A SIEVE ANALYSIS VERIFYING THE PRODUCT MEETS THE ABOVE SIZE GRADATION
- D.3. A 5 GALLON SAMPLE OF THE PRODUCT, FOR THE PROJECT ECOLOGIST/LANDSCAPE ARCHITECT'S APPROVAL.
- E. ALL MULCHES USED IN PLANTER BEDS SHALL BE FEATHERED TO THE BASE OF THE PLANTS AND KEPT AT LEAST SIX (6) INCHES AWAY FROM THE CROWNS OF SHRUBS OR TRUNKS OF
- 2.4 MISCELLANEOUS MATERIALS
- A. <u>STAKES, DEADMEN AND GUY STAKES.</u> SOUND, DURABLE, WESTERN RED CEDAR, OR OTHER APPROVED WOOD, FREE OF INSECT OR FUNGUS INFESTATION.
- B. CHAIN-LOCK TREE TIES: 1/-INCH WIDE, PLASTIC.

PART 3: EXECUTION

- A. <u>PLANTING AREA CONDITIONS</u>. CONTRACTOR SHALL VERIFY THAT PLANT INSTALLATION CONDITIONS ARE SUITABLE WITHIN THE PROJECT AREA(S). ANY UNSATISFACTORY CONDITIONS SHALL BE CORRECTED PRIOR TO START OF WORK, WHEN CONDITIONS CONDITIONS SHALL BE CORRECTED PRIOR TO START OF WORK, WHEN CANDITIONS DETRIMENTAL TO PLANT GROWITH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, POOR DRAINAGE, COMPACTED SOILS, SIGNIFICANT EXISTING OR INVASIVE VEGETATION, OR OTHER OBSTRUCTIONS, CONTRACTOR SHALL NOTIFY THE PROJECT BIOLOGIST OR ECOLOGIST PRIOR TO PLANTING, THE BEGINNING OF WORK BY THE CONTRACTOR CONSTITUTES ACCEPTANCE OF CONDITIONS AS SATISFACTORY.
- B. <u>PLANTING IN GRADED AREAS:</u> REFERENCE DEVELOPER'S AGREEMENT, APPENDIX G FOR
- C. <u>SOIL DECOMPACTION/SCARIFICATION:</u> SOILS IN GRADED/DISTURBED AREAS THAT ARE COMPACTED AND UNSUITABLE FOR PROPER PLANT GROWTH SHALL BE DECOMPACTED AND/OR SCARIFIED TO A MINIMUM DEPTH OF 6-INCHES PRIOR TO TOPSOIL INSTALLATION.

3.2 PLANTING

- A. <u>PLANT LAYOUT.</u> PROPOSED LOCATIONS OF TREES AND SHRUBS SHALL BE STAKED AND IDENTIFIED HITH AN APPROVED CODING STYSTEM OR BY PLACEMENT OF THE ACTUAL PLANT MATERIAL. FOR LARGE GROUPINGS OF A SINGLE SPECIES OF SHRUB, LANDSCAPE CONTRACTOR MAY STAKE THE PLANTING BOUNDARIES.
- B. OBTAIN LAYOUT APPROVAL FROM THE PROJECT BIOLOGIST OR ECOLOGIST PRIOR TO
- C. PLANTING PIT DIMENSIONS:
- I. PIT DEPTH; NOT TO EXCEED THE ROOT BALL OR CONTAINER DEPTH. 2. PIT WIDTH: MEASURED AT THE GROUND SURFACE, 2 TIMES THE WIDTH OF THE ROOT BALL OR CONTAINER, AS INDICATED IN TYPICAL PLANTING DETAILS.

A. SETTING PLANTS:

- I. BALLED PLANTS: SET PLANTS IN POSITION AND BACKFILL I/2 DEPTH OF BALL.

 COMPLETELY REMOVE CAGE AND TWINE FROM PLANT AND PULL BURLAP DOWN AS FAR AS
 POSSIBLE. COMPLETE BACKFILL AND SETTLE WITH WATER. ROOT COLLAR SHALL REMAIN I INCH ABOVE ADJACENT GRADE.
- 2. SHRUB/TREE PLANTING: SHRUB AND TREE STOCK SHALL BE PLANTED IN HAND-DUG HOLES ACCORDING TO PLANTING DETAILS SHOWN ON THE MITIGATION PLANS, SHRUB AND TREE ROOT BALLS SHALL BE SET SO THAT ROOT COLLARS ARE I INCH ABOVE ADJACENT GRADE, ALL BACKFILL SHALL BE GENTLY TAMPED IN PLACE.
- 3. SURFACE FINISH, FORM A SAUCER AS INDICATED ON TYPICAL PLANTING DETAILS, OR AS DIRECTED, GRADE SOIL TO FORM A BASIN ON THE LOWER SIDE OF SLOPE PLANTINGS TO CATCH AND RETAIN WATER,
- 4. ACTUAL PLANT SYMBOL QUANTITIES SHOWN ON THE PLANS SHALL PREVAIL OVE QUANTITIES SHOWN ON THE PLANT SCHEDULE IN THE EVENT OF A DISCREPANCY.

- ... GRADED BUFFER AREAS: ARE MULCHED PRIOR TO PLANT INSTALLATION AS DIRECTED IN THE GRADING SPECIFICATIONS.
- 2. WATER PLANTS THOROUGHLY AFTER MULCHING.
- F. PRUNING: PRUNE IMMEDIATELY AFTER PLANTING ONLY AS DIRECTED BY THE PROJECT BIOLOGIST OR ECOLOGIST.
- 6. TREE STAKES AND TIES: STAKE DECIDIOUS AND EVERGREEN TREES 4 FEET OR OVER IN HEIGHT HITH ONE (I) STAKE PER TREE, STAKE TREES IMMEDIATELY AFTER PLANTINS, PLACE STAKE AT THE OUTER EDGE OF THE ROOTS OR BALL, IN LINE HITH THE PREVAILING WIND, AND AT A IO DEGREE ANGLE FROM THE TREE TRUNK, LOOSELY ATTACH STAKE TO TREE USING CHAIN-LOCK TIES; TREE SHOULD BE ABLE TO SWAY.

H. INSTALLING TEMPORARY IRRIGATION

- I. <u>GENERAL REQUIREMENTS</u>. CONTRACTOR SHALL PROVIDE AN ABOVE-GROUND TEMPORARY IRRIGATION SYSTEM CAPABLE OF FULL HEAD-TO-HEAD COVERAGE OF ALL PLANTED PROJECT AREAS, THE TEMPORARY IRRIGATION SYSTEM SHALL EITHER UTILIZE CONTROLLER AND POINT OF CONNECTION (POC) FROM THE SITE IRRIGATION SYSTEM OR SHALL INCLUDE A SEPARATE POC AND CONTROLLER WITH A BACKFLOW PREVENTION DEVICE PER WATER JURISDICTION INSPECTION AND APPROVAL. THE SYSTEM SHALL BE DEVICE PER MAIS JANISUS INFO INFORMATION AND APPROVAL, THE 3151EM SMALL SEZONED TO PROVIDE OPTIMAL PRESSURE AND UNIFORMITY OF COVERAGE, AS MELL AS SEPARATION BETWEEN AREAS OF FULL SUN AND SHADE AND FOR SLOPES IN EXCESS OF 5 PERCENT. THE SYSTEM SHALL BE OPERATIONAL FOR A MINIMUM OF THE FIRST TWO GROWING SEASONS AFTER PLANTING (THE FIRST TWO YEARS OF THE PERFORMANCE MONITORING PERIOD), OR LONGER IF REQUIRED TO ENSURE PROPER PLANT ESTABLISHMENT. THE SYSTEM SHALL BE REMOVED UPON FINAL APPROVAL OF THE MITIGATION PROJECT AT THE END OF THE PERFORMANCE MONITORING PERIOD.

 2. SYSTEM DESIGN AND MATERIALS: ELECTRONIC VALVES SHALL BE THE SAME
- MANUFACTURER AS THOSE USED FOR THE SITE IRRIGATION SYSTEM, OR SHALL BE RAIN BIRD PEB SERIES OR EQUAL IF SYSTEM IS NOT CONTIGUOUS HITH THE SITE SYSTEM. VALVES SHALL BE SIZED TO ACCOMMODATE PRESSURE AND ZONE CONSUMPTION REQUIREMENTS OF THE SYSTEM AND SHALL BE INSTALLED BELOW GRADE IN CARSON (OR EQUAL) VALVE BOXES, WIRING SHALL BE INSULATED MULTI-STRAND, TAPED TO THE MAIN AT 6-INCH INTERVALS WITH DUCT TAPE WRAPS, ON-GRADE MAIN AND LATERAL LINES SHALL BE CLASS 200 PVC BELL PIPE WITH SOLVENT WELDED FITTINGS, SECURED SHALL BE CLASS 200 PVC BELL PHE WITH SOLVENT WELDED HITTINGS, SECURED WITH MIRE STAPLES WHERE NECESSARY ON SLOPED AREAS, LINES SHALL BE PLACED 12 INCHES BELOW GRADE IN 4 INCH PCV SLEEVES WHERE VEHICULAR OR MAINTENANCE ACCESS IS NEEDED ACROSS LINES TO THE PROJECT AREA(S), MAXIMM MAIN LINE SIZE SHALL BE 11/2 INCHES AND MAY BE LOOPED BACK TO THE POC TO REDUCE PRESSURE LOSS, LATERAL LINES SHALL BE SIZED IN DECREASING DOWNSTREAM ORDER PRESSURE LOSS, LATERAL LINES SHALL BE SIZED IN DECREASING DOWNSTREAM ORDER PER RAIN BIRD DESIGN STANDARDS, THE MINIMUM LATERAL SIZE SHALL BE W. INCH. HEADS SHALL BE ROTOR OR IMPACT TYPE INSTALLED 4 FEET ABOVE FINISHED GRADE ON 2-INCH DIAMETER WOOD TREE STAKES, STAKES SHALL BE SECURE IN THE GROUND, BHEDDEDE TO A MINIMUM DEPTH OF 24 INCHES, HEADS AND % INCH PVC RISERS SHALL BE SECURED TO STAKES WITH CONSTRUCTION HOSE CLAMPS, NO FUNNY PIPE SHALL BE USED, HEADS AND NOZZLES SHALL PROVIDE MATCHED PRECIPITATION RATES FOR EACH ZONE.
- 3. PROGRAMMING. IRRIGATION SYSTEM SHALL BE PROGRAMMED TO PROVIDE APPROXIMATELY I/2 INCH OF WATER EVERY THREE DAYS DURING THE DRY SEASON (APPROXIMATELY JUNE 15TH TO OCTOBER 15TH). IRRIGATION AMOUNTS IN ZONES LOCATED IN THE SHADE OR ON STEEP SLOPES MAY BE REDUCED IF APPROVED BY THE PROJECT BIOLOGIST OR ECOLOGIST OR THE PROJECT ECOLOGIST/BIOLOGIST.

- 4. WATER AND POWER SUPPLY FOR SYSTEM! THE OWNER SHALL PROVIDE WATER AND
- 5. AS-BUILT DRAWING: A CHART DESCRIBING THE LOCATION OF ALL INSTALLED OR OPEN ZONES AND CORRESPONDING CONTROLLER NUMBERS SHALL BE PROVIDED BY THE CONTRACTOR AND PLACED INSIDE THE CONTROLLER AND GIVEN TO THE OWNER'S
- 6. <u>MARRANTY</u>. THE IRRIGATION SYSTEM SHALL INCLUDE A ONE-YEAR WARRANTY AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FROM THE DATE OF FINAL PROJECT ACCEPTANCE. THE WARRANTY SHALL INCLUDE SYSTEM ACTIVATION AND WINTERIZATION FOR THE FIRST YEAR AND IMMEDIATE REPAIR OF THE SYSTEM IF IT IS OBSERVED TO BE MALFUNCTIONING.
- J. <u>CRITICAL AREAS FENCE AND SIGNS:</u> INSTALL CRITICAL AREAS FENCE AND CRITICAL AREAS SIGNS WHERE SHOWN ON PLANS

K. RESTORE EXISTING NATURAL OR LANDSCAPED AREAS:

- . EXISTING NATURAL OR LANDSCAPED AREAS THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION, UNLESS IMPROVEMENTS OR MODIFICATIONS ARE SPECIFIED FOR THOSE AREAS.
- 2. CONTRACTOR SHALL SEEDING TOR TROSE AREAS,
 2. CONTRACTOR SHALL SEEDING FOR TO PREVENT INJURY TO THE TRUNK, ROOTS, OR BRANCHES OF ANY TREES OR SHRUBS THAT ARE TO REMAIN. ANY LIVING, WOODY PLANT THAT IS DAMAGED DURING CONSTRUCTION SHALL BE TREATED WITHIN 24 HOURS OF OCCURRENCE, AND THE PROJECT BIOLOGIST OR ECOLOGIST AND HALL BE NOTIFIED IMMEDIATELY OF THE INCIDENT, DAMAGE TREATMENT SHALL INCLUDE EVENLY CUTTING BROKEN BRANCHES, BROKEN ROOTS, AND DAMAGED TREE BARK, INJURED PLANTS SHALL BE THOROUGHLY WATERED AND ADDITIONAL MEASURES SHALL BE TAKEN, AS APPROPRIATE, TO AID IN PLANT SURVIVAL.
- L. FINAL INSPECTION AND APPROVAL: THE CONTRACTOR SHALL NOTIFY THE PROJECT EINAL INSPECTION AND APPROVALL THE CONTRACTOR SHALL NOTIFY THE PROJECT BIOLOGIST OR ECOLOGISTS IN WRITING AT LEAST TEN DAYS PRIOR TO THE REQUESTED DATE OF A PROJECT COMPLETION INSPECTION. IF ITEMS ARE TO BE CORRECTED, A PUNCH LIST SHALL BE PREPARED BY THE PROJECT BIOLOGIST OR ECOLOGIST AND SUBMITTED TO THE CONTRACTOR FOR COMPLETION. AFTER PUNCH LIST ITEMS HAVE BEEN COMPLETED, THE PROJECT BIOLOGIST OR ECOLOGIST AS ECOLOGIST AND APPLICATION. ARE THE PROJECT FOR AGAIN FOR RINAL ACCEPTANCE OF PLAN IMPLEMENTATION, IF PUNCH LIST ITEMS REQUIRE PLANT REPLACEMENT, AND THE INSPECTION OCCURS OUTSIDE OF A SUITABLE PLANTING SEASON, PLANTS SHALL BE REPLACED DURING THE NEXT PLANTING SEASON.
- M. AS-BUILT PLAN: CONTRACTOR IS RESPONSIBLE FOR VERIFYING PLANT LOCATIONS AND ON THE PLANT SCHEDULE WITH THOSE REPRESENTED AS SYMBOLS ON TH MITIGATION PLANS. CONTRACTOR SHALL KEEP A COMPLETE SET OF PRINTS AT THE JOB MITIGATION PLANS, CONTRACTOR SHALL REEP A COMMELTE SET OF PRINTS AT THE JURY SITE DURING CONSTRUCTION FOR THE PURPOSE OF RECORDING IN-THE-FIELD CHANGES OF MODIFICATIONS TO THE APPROVED PLANS. THIS INFORMATION SHALL BE UPDATED ON A DAILY BASIS AS NECESSARY.

PART 4: ONE YEAR CONTRACTOR WARRANTY

NOTE: THESE MAINTENANCE SPECIFICATIONS APPLY TO THE ONE-YEAR CONTRACTOR NOTE, THESE MAINTENANCE SPECIFICATIONS APPLY TO THE ONE-YEAR CONTRACTOR WARRANTY PERIOD ONLY. IF THIS MITIGATION PROJECT REQUIRES LONG-TERM PERFORMANCE MONITORING, AS DETERMINED BY THE GOVERNING JURISDICTION, THE MAINTENANCE SPECIFICATIONS AND GUIDELINES ASSOCIATED WITH THE PERFORMANCE MONITORING STANDARDS ARE INCLUDED IN THE MITIGATION REPORT ASSOCIATED WITH THIS PLAN SET, AND MAY ALSO BE INCLUDED ON A SEPARATE PLAN SHEET IF REQUIRED.

- A. <u>REVIEW OF MAINTENANCE REQUIREMENTS</u>. CONTRACTOR SHALL REVIEW LANDSCAPE MAINTENANCE RECOMMENDATIONS WITH A QUALIFIED WETLAND BIOLOGIST FROM THE PROJECT BIOLOGIST OR ECOLOGIST WHO IS FAMILIAR WITH THE STATED GOALS AND OBJECTIVES OF THE PROJECT PLAN.
- B. MAINTENANCE ACTIVITIES: CONTRACTOR SHALL MAINTAIN TREES AND SHRUBS FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE IN ORDER TO MAINTAIN HEALTHY ORONTH AND HABITAT DIVERSITY. MAINTENANCE ACTIVITIES SHALL INCLUDE, BUT ARE NOT LIMITED TO: (A) REPLACING PLANTS DUE TO MORTILLITY, (B) TIGHTENING AND REPAIRING TREE STAKES, (C) RESETTING PLANTS TO PROPER GRADES AND UPRIGHT POSITIONS, AND (D) CORRECTING DRAINAGE PROBLEMS AS REQUIRED.

C. IRRIGATION:

- I. <u>SYSTEM MAINTENANCE AND REPAIR</u>. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACTIVATING, MINTERIZING, MAINTAINING, AND CONTINUALLY VERIFYING THE ADEQUARE OPERATION OF THE TEMPORARY IREGISATION SYSTEM FOR THE FIRST GROUNING SEASON FOLLOWING INSTALLATION, SYSTEM FUNCTION (INCLUDING ELECTRONIC VALVE AND CONTROLLER FUNCTION) SHALL BE INSPECTED FOR OPERATION AND FULL COVERAGE OF ALL PLANTED AREAS DURING EACH MAINTENANCE VISIT. THE SYSTEM SHALL BE REPAIRED IMMEDIATELY IF FOUND TO BE DAMAGED OR MALFUNCTIONING. SYSTEM SHALL BE PROGRAMMED AND MAINTAINED TO PROVIDE APPROXIMATELY 1/2 INCH OF WATER EVERY THREE DAYS.
- D. STAKE AND TIE REMOVAL: CONTRACTOR SHALL REMOVE TREE STAKES AND TIES ONE YEAR AFTER INSTALLATION, UNLESS RECEIVING WRITTEN PERMISSION FROM THE PROJECT BIOLOGIST OR ECOLOGIST TO DELAY REMOVAL OF STAKES AND TIES
- E. EROSION AND DRAINAGE: CONTRACTOR SHALL CORRECT EROSION AND DRAINAGE
- F. <u>IRRIGATION SYSTEM REMOVAL:</u> CONTRACTOR SHALL REMOVE IRRIGATION SYSTEM APPROXIMATELY 2 YEARS AFTER PLANTING, OR AS APPROVED BY THE PROJECT BIOLOGIST
- G. FINAL MAINTENANCE INSPECTION AND APPROVAL. UPON COMPLETION OF THE ONE-YEAR MAINTENANCE PERIOD, AN INSPECTION BY THE PROJECT BIOLOGIST OR ECOLOGIST SHALL BE CONDUCTED TO CONFIRM THAT THE PROJECT AREA WAS PROPERLY MAINTAINED. IF ITEMS ARE TO BE CORRECTED, A PUNCH LIST SHALL BE PREPARED AND SUMMITTED TO THE CONTRACTOR FOR CORRECTION, UPON CORRECTION OF THE PUNCH LIST ITEMS, THE PROJECT SHALL BE REVIEWED BY THE PROJECT BIOLOGIST OR ECOLOGIST FOR FINAL CLOSEOUT OF PLAN IMPLEMENTATION.
- H. THE CONTRACTOR SHALL PROVIDE MANUAL WATERING TO ALL UNIRRIGATED MITIGATION . THE CONTRACTOR SHALL PROVIDE MANUAL WATERING TO ALL UNIRRIGATED MITIGATION PLANTINGS BETWEEN JUNE 15TH AND OCTOBER 15TH, SUPPLEMENTAL WATERING MAY ALSO BE REQUIRED IF HOT, DRY WEATHER OCCURS EITHER BEFORE OR AFTER THESE DATES, DURING THE FIRST YEAR AFTER INSTALLATION, PLANTINGS SHALL BE WATERED A MINIMUM OF ONE INCH PER WEEK. WATERING FREGUENCY MAY BE INCREASED AS NECESSARY DURING PROLONGED PERIODS OF HOT, DRY WEATHER TO PREVENT PLANT MORTALITY.



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EP. AO BS PROJECT MANAGE PROJECT ARCHITECT DRAWN BY FΗ

ASDP/SSDP/SV RESUBMITTAL

EP

REVISIONS DESCRIPTION 10/3/2019 30% CD /1/2020 ASDP REVISION #1 ASDP REVISION #2 9/8/2021 1/12/2022 ASDP/SSDP/SV

PLANTING SPECIFICATIONS

W4.0

ISSUE DATE 4/12/2021 FOR IO YEARS AS REQUIRED BY US ARMY CORPS OF ENGINEERS

MITIGATION AREAS:

- WETLAND E RESTORATION: 28.776 SF
- · WETLAND E BUFFER RESTORATION: 13,025 SF
- TIBBETTS CREEK BUFFER ENHANCEMENT: 34,391 SF

OBJECTIVE A: THE WETLAND E RESTORATION AREA MUST EXHIBIT WETLAND HYDROLOGY. WETLAND CONDITIONS WILL BE VERIFIED BY THE PRESENCE OF HYDROLOGIC INDICATORS.

PERFORMANCE STANDARD AL: AFTER CONSTRUCTION, THE RESTORED
METLAND AREAS SHALL EXHIBIT 14 OR MORE CONSECUTIVE DAYS OF PONDING OR A MATER TABLE 12 INCHES OR LESS BELOW THE SOIL SURFACE DURING THE GROWING SEASON IN EACH YEAR OF NORMAL RAINFALL. EVIDENCE OF WETLAND HYDROLOGY MAY INCLUDE EVIDENCE OF SATURATED SOIL CONDITIONS (I.E., SIGNS OF PONDING, A WATER TABLE NEAR THE SURFACE, NATER MARKS, WATER-STAINED LEAVES, OR OXIDIZED RHIZOSPHERES). IN ADDITION, A COMBINATION OF NATIVE OR NATURALIZED WOODY AND HERBACEOUS VEGETATION THAT IS PREDOMINANTLY FAC OR WETTER WILL COVER THE WETLAND AREAS. HYDROLOGY SHALL BE MONITORED, AT A MINIMUM, DURING YEARS 1, 2, 3, 5, 7, AND 10.

OBJECTIVE B: CREATE STRUCTURAL AND PLANT SPECIES DIVERSITY IN ALL OF

PERFORMANCE STANDARD BI: PERCENT SURVIVAL OF ALL INSTALLED SPECIES MUST BE AT LEAST IOO% AT THE END OF YEAR I (PER CONTACTOR MARRANTY), AND AT LEAST 80% AT THE END OF YEARS 2 AND 3. SURVIVAL WILL NOT BE TRACKED AFTER YEAR 3 UNLESS A CONTINGENCY MEASURE IS IMPLEMENTED THAT REQUIRES NEW PLANTINGS.

<u>PERFORMANCE STANDARD B2:</u> AT LEAST & SPECIES OF DESIRABLE NATIVE PLANT SPECIES WILL BE PRESENT IN THE WETLAND RESTORATION, BUFFER RESTORATION, AND BUFFER ENHANCEMENT AREAS. SPECIES MAY BE COMPRISED OF BOTH PLANTED AND NATURALLY COLONIZED VEGETATION.

PERFORMANCE STANDARD B3. COVERAGE OF HERBACEOUS VEGETATION WITHIN THE DESIGNATED AREAS WHERE NO WOODLY VEGETATION HAS ALSO BEEN PLANTED SHALL BE AT LEAST 30% BY THE END OF YEAR I, 50% BY THE END OF YEAR 5, AND 65% BY THE END OF YEARS 5, 7, AND IO. THIS PERFORMANCE STANDARD DOES NOT APPLY TO AREAS WHERE SHRUB OR FOREST IS THE TARGETED COVER TYPE.

PERFORMANCE STANDARD B4: TOTAL PERCENT AREAL WOODY PLANT COVERAGE MUST BE AT LEAST 35% BY THE END OF YEAR 4, 50% BY THE END OF YEAR 5, 55% BY THE END OF YEAR 7, AND 65% BY THE END OF YEAR 10. THIS PERFORMANCE STANDARD ONLY APPLIES WHERE WOODY SPECIES ARE PROPOSED FOR PLANTING.

WOODY PLANT COVERAGE MAY BE COMPRISED OF BOTH PLANTED AND RECOLONIZED NATIVE SPECIES; HOWEVER, AT NO TIME DURING THE MONITORING PERIOD SHALL A RECOLONIZED NATIVE SPECIES (E.G., RED ALDER) COMPRISE MORE THAN 35% OF THE TOTAL WOODY PLANT COVER IN

OBJECTIVE C: REMOVE AND CONTROL INVASIVE PLANTS TO LESS THAN 10% COVER IN MITIGATION AREAS.

PERFORMANCE STANDARD CI: AFTER CONSTRUCTION AND THROUGHOUT THE IO-YEAR CORPS MONITORING PERIOD, AREAL COVERAGE BY NON-NATIVE INVASIVE PLANT SPECIES SHALL BE MAINTAINED AT IO% OR LESS THROUGHOUT THE MITIGATION SITE. THESE STANDARDS APPLY TO DITCH, RIPARIAN, AND UPLAND BUFFER AREAS COMBINED. THESE SPECIES INCLUDE, BUT ARE NOT LIMITED TO: SCOT'S BROOM, HIMALAYAN AND EVERGREEN BLACKBERRY, PURPLE LOOSESTRIFE, HEDGE BINDWEED, AND BITTERSWEET

PERFORMANCE STANDARD C2: PER CORPS REQUIREMENTS, AFTER CONSTRUCTION AND THROUGHOUT THE IO-YEAR CORPS MONITORING PERIOD, NON-NATIVE INVASIVE KNOTWEED SPECIES (SUCH AS POLYGONUM CUSPIDATUM. . POLYSTACHYUM, P. SACHALINENSE, AND P. BOHEMICUM) WILL BE ERADICATED THROUGHOUT THE MITIGATION AREAS (INCLUDING BUFFER AREAS) FOR A TOTAL COVER OF 0%.

MONITORING SCHEDULE

PERFORMANCE MONITORING OF THE MITIGATION AREAS WILL BE CONDUCTED ACCORDING TO ALL APPLICABLE CODE/REGULATORY REQUIREMENTS AND PERMIT CONDITIONS. MONITORING WILL BE CONDUCTED IN ACCORDANCE WITH IMC 18.10.500 FOR A MINIMUM OF FIVE (5) YEARS FOR THE CITY OF ISSAQUAH (CITY) AND IO YEARS FOR THE ARMY CORPS OF ENGINEERS (CORPS). MONITORING WILL BE CONDUCTED ACCORDING TO THE SCHEDULE PRESENTED BELOW, AND WILL BE PERFORMED BY A QUALIFIED BIOLOGIST OR ECOLOGIST FROM TALASAEA CONSULTANTS, INC.

PROJECTED SCHEDULE FOR PERFORMANCE MONITORING AND MAINTENANCE

YEAR	DATE MAINTENANCE REVIEW		PERFORMANCE MONITORING	REPORT DUE TO AGENCIES	
YEAR O, AS-BUILT AND BASELINE ASSESSMENT	FALL	×	× ×		
	SPRING	×	×		
ı	FALL	×	×	×	
2	SPRING	×	×		
2	FALL	×	×	×	
3	SPRING	×			
э	FALL	×	×	×	
,	SPRING	×			
4	FALL	×	×		
5	SPRING	×			
	FALL	×	×	×*	
	SPRING	×			
6	FALL				
	SPRING	×			
٦	FALL		×	×*	
	SPRING	×			
8	FALL				
	SPRING	×			
ঀ	FALL				
10	SPRING	×			
10	FALL	×	×	×**	

- * OBTAIN FINAL APPROVAL TO FACILITATE BOND RELEASE FROM THE CITY (PRESUMES PERFORMANCE CRITERIA AREA MET).
- * ** OBTAIN FINAL APPROVAL FROM CORPS (PRESUMES PERFORMANCE CRITERIA ARE MET).

MONITORING REPORT WILL INCLUDE:

- I) PROJECT OVERVIEW
- 2) MITIGATION PERFORMANCE STANDARDS SUMMARY
- 3) SUMMARY DATA, INCLUDING DATE OF INSPECTION, LOCATION, DATE PLANTING WAS COMPLETED, BRIEF NARRATIVE ADDRESSING CONTEXT OF WATERBODIES AND LAND USE, METHODS OF EVALUATION, YEAR NUMBER OF THE REQUIRED IO
- 4) MAPS, PLANS AND PHOTOS TO SUPPORT SUMMARY DATA; PHOTOGRAPHS WILL BE FROM ESTABLISHED PHOTO POINTS FROM TIME OF COMPLETED INSTALLATION.
- 5) CONCLUSIONS: A GENERAL STATEMENT DESCRIBING WHETHER THE PERFORMANCE STANDARDS ARE BEING MET AND A BRIEF EXPLANATION IF THEY ARE NOT BEING MET, WITH REMEDIAL ACTIONS BEING TAKEN.

IF THE PERFORMANCE CRITERIA ARE MET, MONITORING FOR THE CITY WILL CEASE AT THE END OF YEAR FIVE, UNLESS OBJECTIVES ARE MET AT AN EARLIER DATE AND THE CITY ACCEPTS THE MITIGATION PROJECT AS SUCCESSFULLY

MONITORING METHODS

VEGETATION MONITORING METHODS MAY INCLUDE COUNTS; PHOTO-POINTS; RANDOM SAMPLING; SAMPLING PLOTS, QUADRATS, OR TRANSECTS; STEM DENSITY; VISUAL INSPECTION; AND/OR OTHER METHODS DEEMED APPROPRIATE BY THE CITY AND THE BIOLOGIST/ECOLOGIST. VEGETATION MONITORING COMPONENTS SHALL INCLUDE GENERAL APPEARANCE, HEALTH, MORTALITY, COLONIZATION RATES, PERCENT COVER, PERCENT SURVIVAL, VOLUNTEER PLANT SPECIES, AND INVASIVE WEED COVER.

PERMANENT VEGETATION SAMPLING PLOTS, QUADRATS, AND/OR TRANSECTS WILL BE ESTABLISHED AT SELECTED LOCATIONS TO ADEQUATELY SAMPLE AND REPRESENT ALL OF THE PLANT COMMUNITIES WITHIN THE MITIGATION PROJECT AREAS, THE NUMBER EXACT SIZE, AND LOCATION OF TRANSECTS, SAMPLING PLOTS, AND QUADRATS WILL BE DETERMINED AT THE TIME OF THE BASELINE ASSESSMENT.

PERCENT AREA COVER OF WOODY VEGETATION (FORESTED AND/OR PERCENT AREA COVER OF WOODY VEGETATION (FORESTED AND/OR SCRUB-SHRUB PLANT COMMUNITIES) WILL BE EVALUATED THROUGH THE USE OF POINT-INTERCEPT SAMPLING METHODOLOGY. USING THIS METHODOLOGY, A TAPE WILL BE EXTENDED BETWEEN TWO PERMANENT MARKERS AT EACH END OF AN ESTABLISHED TRANSECT. TREES AND SHRUBS INTERCEPTED BY THE TAPE WILL BE IDENTIFIED, AND THE INTERCEPT DISTANCE RECORDED. PERCENT COVER BY SPECIES WILL THEN BE CALCULATED BY ADDING THE INTERCEPT DISTANCES AND EXPRESSING THEM AS A TOTAL PROPORTION OF THE TAPE LENGTH.

THE ESTABLISHED VEGETATION SAMPLING LOCATIONS WILL BE MONITORED AND COMPADED TO THE BASE HIS DATA DISTANCE AND EACH DESTRUCTIONS.

THE ESTABLISHED VEGETATION SAMPLING LOCATIONS WILL BE MONITORED AND COMPARED TO THE BASELINE DATA DURING EACH PERFORMANCE MONITORING EVENT TO AID IN DETERMINING THE SUCCESS OF PLANT ESTABLISHMENT. PERCENT SURVIVAL OF SHRUBS AND TREES WILL BE EVALUATED IN A 10-FOOT-MIDE STRIP ALONG EACH ESTABLISHED TRANSECT. THE SPECIES AND LOCATION OF ALL SHRUBS AND TREES WITHIN THIS AREA WILL BE RECORDED AT THE TIME OF THE BASELINE ASSESSMENT AND WILL BE EVALUATED DURING EACH MONITORING EVENT TO DETERMINE PERCENT SURVIVAL.

PHOTO DOCUMENTATION

HOLO DOCUMENTATION

LOCATIONS MILL BE ESTABLISHED MITHIN THE MITIGATION AREAS FROM WHICH PANORAMIC PHOTOGRAPHS WILL BE TAKEN THROUGHOUT THE MONITORING PERIOD. THESE PHOTOGRAPHS WILL DOCUMENT GENERAL APPEARANCE AND RELATIVE CHANGES WITHIN THE PLANT COMMUNITIES. A REVIEW OF PHOTOS OVER TIME WILL PROVIDE A SEMI-GUANTITATIVE REPRESENTATION OF THE SUCCESS OF THE PLANTING PLANT. VEGETATION SAMPLING PLOTS AND PHOTO-POINT LOCATIONS WILL BE SHOWN ON A MAP AND SUBMITTED WITH THE BASEL NIE ACCEPTANT AT PLANTING PLANT. THE BASELINE ASSESSMENT REPORT AND YEARLY PERFORMANCE

WATER QUALITY AND SITE STABILITY

WATER QUALITY WILL BE ASSESSED QUALITATIVELY UNLESS IT IS EVIDENT THAT THERE IS A SERIOUS PROBLEM. IN SUCH AN EVENT, MATER QUALITY SAMPLES WILL BE TAKEN AND ANALYZED IN A LABORATORY FOR SUSPECTED PARAMETERS. QUALITATIVE ASSESSMENTS OF WATER QUALITY INCLUDE:

- · OIL SHEEN OR OTHER SURFACE FILMS.
- · ABNORMAL COLOR OR ODOR OF WATER,
- · STRESSED OR DEAD VEGETATION OR AQUATIC FAUNA.
- TURBIDITY, AND
- · ABSENCE OF AQUATIC FAUNA

OBSERVATIONS WILL BE MADE OF THE GENERAL STABILITY OF SOILS IN THE MITIGATION AREAS DURING EACH MONITORING EVENT. ANY EROSION OF SOILS OR SOIL SLUMPING WILL BE RECORDED AND CORRECTIVE MEASURES

> NOT FOR CONSTRUCTION THESE PLANS HAVE BEEN IBMITTED TO THE APPROPRIAT AGENCIES FOR REVIEW AND APPROVED, UNTIL APPROVED, THESE PLANS ARE: SUBJECT TO REVISION



SURVEY PROVIDED BY BUSH, ROED, 4 HITCHINGS INC., 2009 MINOR AVE E SEATTLE, NA 46102-3513, (206) 323-4144. SITE PLAN PROVIDED BY KPFF, 1601 5TH AVE SUITE 1600 SEATTLE, WA 48101,

- (206) 622-5822.
- SOURCE DRAWING WAS MODIFIED BY TALASAEA CONSULTANTS FOR VISUAL ENHANCEMENT.
 - ENHANCEMENT. THIS PLAN IS AN ATTACHMENT TO THE CRITICAL AREAS REPORT PREPARED BY TALASAEA CONSULTANTS IN MAY, 2021.

Seattle, WA 98101 206.622.5822 www.kpff.com



HYLA CROSSING PUMPED STORMWATER DISCHARGE

ISSAQUAH, WA



1595 NW GILMAN BLVD ISSAQUAH WA. 98027

EP. AO PRINCIPAL BS PROJECT MAN PROJECT ARCHITECT DRAWN BY FΗ

ASDP/SSDP/SV **RESUBMITTAL**

EP

REVISIONS .0/3/2019 30% CD ASDP ASDP REVISION #1 ASDP REVISION #2 9/8/2021 /12/2022 ASDP/SSDP/SV

"PERFORMANCE **MONITORING OBJECTIVES**

W5.0

ISSUE DATE 4/12/2021



ATTACHMENT 3

Bond Quantity Worksheet

Department of Permitting

Environmental Review 35030 SE Douglas Str, Suite 210 Snoqualmie, WA 98065-9266 206-296-6600 TTY Relay: 711

Critical Areas Mitigation Bond Quantity Worksheet

C24 09/09/2015 Is-wks-sensareaBQ.xls

ls-wks-sensareaBQ.pdf

Hyla Crossing 15-Apr-22 Prepared by: Wet.land, LLC Project Name: Date:

Project Number: **Project Description: Restoration of Temporary impacts**

cation: Issaquah		Applicant:		Phon	e:	
PLANT MATERIALS (includes labor cost for plant installation)	or					
Type	Unit Price	Unit	Quantity	Description	Cost	
PLANTS: Potted, 4" diameter, medium	\$5.00	Each	7455.00		\$	37,275.00
PLANTS: Container, 1 gallon, medium soil	\$11.50	Each	1345.00		\$	15,467.50
PLANTS: Container, 2 gallon, medium soil	\$20.00	Each	422.00		\$	8,440.00
PLANTS: Container, 5 gallon, medium soil	\$36.00	Each			\$	-
PLANTS: Seeding, by hand	\$0.50	SY			\$	-
PLANTS: Slips (willow, red-osier) PLANTS: Stakes (willow)	\$2.00 \$2.00	Each Each	1723.00		\$	3,446.00
PLANTS: Stakes (willow) PLANTS: Stakes (willow)	\$2.00	Each	1723.00		\$	3,446.00
PLANTS: Flats/plugs	\$2.00	Each			\$	
TEARTS. Hats/plugs	Ψ2.00	Luon		TOTAL		64,628.50
INSTALLATION COSTS (LABOR, EQ	UIPMENT, & OVE	RHEAD)				
Type Composit vogotable delivered and spread	Unit Price \$37.88	Unit	00.00	2" compost	Cost \$	3,409.20
Compost, vegetable, delivered and spread Decompacting till/hardpan, medium, to 6" depth	\$1.57	CY	90.00	3" compost	\$	3,409.20
Decompacting till/hardpan, medium, to 0 depth	\$1.57	CY			\$	
Hydroseeding	\$0.51	SY			\$	-
Labor, general (landscaping other than plant installation)	\$40.00	HR			\$	-
Labor, general (construction)	\$40.00	HR			\$	-
Labor: Consultant, supervising	\$55.00	HR			\$	-
Labor: Consultant, on-site re-design	\$95.00	HR			\$	-
Rental of decompacting machinery & operator	\$70.00	HR			\$	-
Sand, coarse builder's, delivered and spread	\$42.00	CY	440.00		\$	-
Staking material (set per tree)	\$7.00	Each	112.00		\$	784.00
Surveying, line & grade	\$250.00 \$250.00	HR HR			\$	
Surveying, topographical Watering, 1" of water, 50' soaker hose	\$3.62	MSF			\$	
Irrigation - temporary	\$3,000.00	Acre	1.56		\$	4,680.00
Irrigation - buried	\$4,500.00	Acre	1.00		\$	
Tilling topsoil, disk harrow, 20hp tractor, 4"-6" deep	\$1.02	SY			\$	-
				TOTAL	\$	8,873.20
HABITAT STRUCTURES*	1		T	<u> </u>		
TEMS Fascines (willow)	Unit Cost 2.00	Unit Each			Cost \$	
Logs, (cedar), w/ root wads, 16"-24" diam., 30' long	\$1,000.00	Each			\$	
Logs (cedar), whoot wads, 16"-24" diam., 30"	\$400.00	Each			\$	
Logs, w/o root wads, 16"-24" diam., 30' long	\$245.00	Each			\$	-
Logs w/ root wads, 16"-24" diam., 30' long	\$460.00	Each			\$	-
Rocks, one-man	\$60.00	Each			\$	-
Rocks, two-man	\$120.00	Each			\$	-
Root wads	\$163.00	Each			\$	-
Spawning gravel, type A	\$22.00	CY			\$	-
Weir - log	\$1,500.00	Each			\$ \$	-
Weir - adjustable Woody debris, large	\$2,000.00 \$163.00	Each Each			\$	-
Snags - anchored	\$400.00	Each			\$	
Snags - on site	\$50.00	Each			\$	
Snags - imported	\$800.00	Each			\$	-
* All costs include delivery and installation			I	TOTAL	\$	-
EROSION CONTROL				•		
ITEMS	Unit Cost	Unit			Cost	
Backfill and Compaction-embankment	\$ 4.89	CY			\$	-
Crushed surfacing, 1 1/4" minus	\$30.00	CY			\$	-
Ditching Everyotion bulk	\$7.03 \$4.00	CY			\$	-
Excavation, bulk Fence, silt	\$4.00 \$1.60	CY LF			\$ \$	-
Jute Mesh	\$1.80	SY			\$	-
Mulch, by hand, straw, 2" deep	\$1.27	SY			\$	_
Mulch, by hand, wood chips, 2" deep	\$3.25	SY	39179.00		\$	127,331.75
Mulch, by machine, straw, 1" deep	\$0.32	SY			\$	-
Piping, temporary, CPP, 6"	\$9.30	LF			\$	-
Piping, temporary, CPP, 8"	\$14.00	LF			\$	-
Piping, temporary, CPP, 12"	\$18.00	LF			\$	-
Plastic covering, 6mm thick, sandbagged	\$2.00	SY			\$	-
Rip Rap, machine placed, slopes	\$33.98	CY			\$	-
Rock Constr. Entrance 100'x15'x1'	\$3,000.00	Each			\$	-
Rock Constr. Entrance 50'x15'x1'	\$1,500.00	Each			\$	-
Sediment pond riser assembly	\$1,695.11	Each			\$	-
Sediment trap, 5' high born	\$15.57 \$59.60	<u>L</u> F			\$	-
Sediment trap, 5' high berm w/spillway incl. riprap		LF SY			\$	-
Sodding, 1" deep, level ground Sodding, 1" deep, sloped ground	\$5.24 \$6.48	SY SY			\$	-
Straw bales, place and remove	\$600.00	TON			\$	
Hauling and disposal	\$20.00	CY			\$	-
Topsoil, delivered and spread	\$35.73	CY	479.00		\$	17,114.67
, ,				· —		

TOTAL

\$

144,446.42

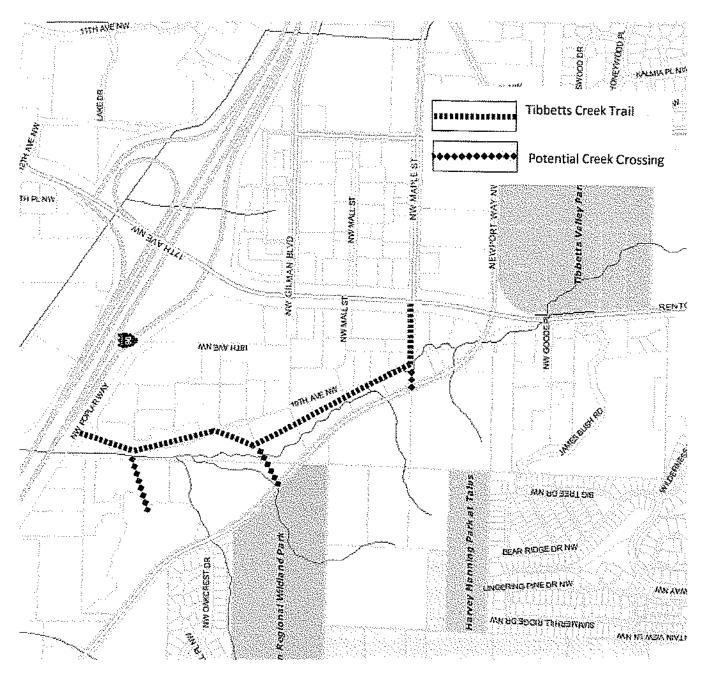
ITEMS	Unit Cost	11-5				Cost	
ITEMS	Unit Cost	Unit				Cost	
Fencing, chain link, 6' high	\$18					\$	-
Fencing, chain link, corner posts Fencing, chain link, gate	\$111 \$277					\$	<u> </u>
Fencing, chair link, gate Fencing, split rail, 3' high (2-rail)	\$10			100x97; perimeter	r	\$	9,507.0
Fencing, temporary (NGPE)		.20 LF	002.00	rooxor, perimeter	'	\$	-
Signs, sensitive area boundary (inc. backing, post, install)	\$28			1 per 50'		\$	256.5
,	•	•	•		TOTAL	\$	9,763.5
OTHER				(Construction Co	ost Subtotal)	\$	227,711.7
	Percentage o			,			
ITEMS	Construction Co	ost					
		Uni	t			Cost	
Mobilization	10%	1				\$	22,771.1
Contingency	30%	1				\$	68,313.5
	<u> </u>			<u> </u>	TOTAL	\$	91,084.6
						Ф	91,084.6
AINTENANCE AND MONITORING	monitoring ar for developme	nd maintenance tern	ns. This will be	nts may be required to evaluated on a case aintance ranges may	-by-case basis	_	
Maintenance, annual (by owner or consultant)							
Less than 1,000 sq.ft. and buffer mitigation only	\$ 1.	08 SF		(3 X SF total for 3 annual events; Includes monitoring)		\$	<u> </u>
Less than 1,000 sq.ft. with wetland or aquatic area mitigation		35 SF	=	(3 X SF total for 3 annual events; Includes monitoring)		\$	-
Larger than 1,000 sq. ft. but less than 5,000 sq.ft. of buffer mitigation	\$ 180.	00 EACH	ı	(4hr @\$45/hr)		\$	
Larger than 1,000 sq. ft. but less than 5,000 sq.ft. of wetland or aquatic area mitigation	\$ 270.	00 EACH	ı	(6hr @\$45/hr)		\$	-
Larger than 5,000 sq.ft. but < 1 acre -buffer mitigation only	\$ 360.	00 EACH	I	(8 hrs @ 45/hr)		\$	<u> </u>
Larger than 5,000 sq.ft. but $<$ 1 acre with wetland or aquation area mitigation	\$ 450.	00 EACH	l	(10 hrs @ \$45/hr)		\$	-
Larger than 1 acre but < 5 acres - buffer and / or wetland or aquatic area mitigation	\$ 1,600.	00 DAY	20.00	0 (WEC crew)		\$	32,000.0
Larger than 5 acres - buffer and / or wetland or aquatic area mitigation	a \$ 2,000.	00 DAY	,	(1.25 X WEC crew)		\$	-
Monitoring, annual (by owner or consultant)					,		
Larger than 1,000 sq.ft. but less than 5,000 wetland or buffer mitigation	\$ 720.	00 EACH	I	(8 hrs @ 90/hr)		\$	-
Larger than 5,000 sq.ft. but < 1 acre with wetland or aquationarea impacts	\$ 900.	00 EACH	I	(10 hrs @ \$90/hr)		\$	-
Larger than 1 acre but < 5 acres - buffer and / or wetland or aquatic area impacts	\$ 1,440.	00 DAY	20.00	(16 hrs @ \$90/hr)		\$	28,800.0
Larger than5 acres - buffer and / or wetland or aquatic area impacts	\$ 2,160.	00 DAY				¢	
присс	φ ∠,100.	UU DAY		(24 hrs @ \$90/hr)	TOTAL	\$	<u>-</u>
					TOTAL	\$	60,800.0



ATTACHMENT 4

Exhibit D-2, Section 3.0, Appendix D Community Spaces of the DA

Exhibit D-2 – Tibbetts Creek Trail



Note: the Tibbetts Creek Trail is envisioned to be a combination of Multi-Use Trail (Appendix E, Section 5.3) and Critical Area Trail (Appendix E, Section 5.1). The exact design of the trail will be determined through the permitting of the facilities. Of the three Potential Creek Crossings, at least one crossing will be a connection to Newport and allow for bicycles as described in Appendix D, Section 3.B. The other potential crossings are at the Master Developer's discretion.



ATTACHMENT 5

Section 5.1 of Appendix E Circulation Standards of the DA

5.1 **Critical Areas Trail**

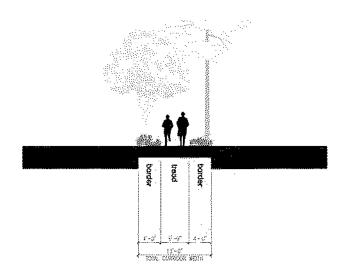
Desired Function:

Desir	ca i anchon.				
Pedestrian	High	Bicycle	None	Building Main	None
				Entry	
Vehicle	None	Fire	None	Transit	None
Freight	None	Service	None		

Facility	Corridor Width *	Sidewalk / Tread Width	Vehicular Pavement Width	Number of Lanes	Bike Lane	On- street Parking	Land- scape	Comments
Critical Areas Trail	13 ft	5 ft	None	NA	None	No	4 ft border ea. side	Border compatible with existing buffer
Пап							ea. side	vegetation.

Note: Corridor Width is the total sum of the elements. The dimensions of the elements shall not be increased or decreased except with the approval of the Designated Official and the Designated Official will determined if an Administrative Modification is necessary. Only pedestrian, bicycle or landscape elements should be increased.

Critical Area Trails are non-motorized trails used in Critical Area Buffers and provide connectivity, recreational, educational opportunities. The tread anticipates a trail that will have a high level of pedestrian use, but it is too narrow for bicycle use. The primarily soft surface trail offers controlled access to critical areas. In addition, overlooks and similar gathering spots may be provided to accommodate vistas and other unique opportunities.



Critical Areas Trail



July 27, 2022

Doug Yormick Assistant Planner, City of Issaquah PO Box 1307 1775 12th Ave NW Issaquah, WA 98027

Re: Rowley Hyla Crossing Stormwater Discharge ASDP20-00005, Wetland and Stream Delineation and Mitigation, 2nd Peer Review

The Watershed Company Reference Number: 190320.16

Dear Doug:

This letter represents our second peer review of the wetland and stream delineation study and associated proposed mitigation for the above-referenced project. Previous peer review comments were provided in the *Rowly Hyla Crossing Stormwater Discharge ASDP20-00005 Wetland and Stream Delineation and Mitigation Peer Review* (The Watershed Company. 6/10/21) (TWC Peer Review). In response to the TWC Peer Review, the applicant provided the following revised/supplemental documents:

- Hyla Crossing Pumped Stormwater Discharge Project, Issaquah, Washington Response to Comments (Wet.Land, LLC. 4/15/2022) (Comment Response Letter)
- Critical Areas Report & Mitigation Plan Hyla Crossing Pumped Stormwater Discharge Project Issaquah, Washington (Talasaea Consultants, Inc. Revised 4/15/2022) (Revised CAR)

Peer Review Comment Summary

The TWC Peer Review recommendations from the June 2021 letter are below in italics, followed by current comments:

1. Prepare the required wetland rating form figures for Wetland E.

Additional Comments: A new wetland rating form and accompanying figures have been prepared for Wetland E. A new hydrogeomorphic classification has been determined for Wetland E (lake-fringe), and as a result, the updated rating has been determined to be a Category I with a habitat score of eight points. The revised rating requires a standard buffer width of 225 feet. This comment has been sufficiently addressed. We have no additional comments regarding the wetland classification.

- 2. Address the wetland rating inconsistencies discussed under the Wetland Classification section above; revise the wetland classification accordingly.
 - **Additional Comments:** Given the revised hydrogeomorphic classification and wetland rating, the rating form inconsistencies have been sufficiently addressed or are no longer applicable. We have no additional comments.
- 3. Revise the Plant Density Tables and Plant Schedule on Sheet W3.3 to be consistent with each other. Verify the correct plant quantities based on the proposed plant spacing.
 - Additional Comments: The applicant has clarified that "groundcover" plants include grass seed mix being applied in Zones 1 and 2. The "2' O.C." spacing would not apply to grass seed as depicted. However, given the explanation, it is apparent that the "2' O.C." descriptor is a minor error; the seed mix application rate is specified elsewhere. All remaining inconsistencies between the plant density tables and the plant schedule have been resolved. We have no additional comments.
- 4. Clarify the Plant Communities Legend on Sheet W3.3 to accurately depict where the Zone 4 willow stakes will be placed.
 - <u>Additional Comments</u>: This comment has been sufficiently addressed. We have no additional comments.
- 5. Confirm that all plant species installed beneath the power lines will not exceed the maximum allowed height per the utility agency.
 - <u>Additional Comments</u>: This comment has been sufficiently addressed. Species that regularly exceed 25 feet in height have been removed from beneath the power lines. We have no additional comments.
- 6. Provide performance standards for all on-site restoration/enhancement areas.

<u>Additional Comments</u>: The mitigation plan includes objectives and performance standards for wetland hydrology, native species diversity and cover, and invasive species cover.

Performance Standard B3 states: "Coverage of herbaceous vegetation within the designated areas where no woody vegetation has also been planted shall be at least 30% by the end of Year 1, 50% by the end of Year 5, and 65% by the end of Years 5, 7, and 10. This performance standard does not apply where shrub or forest is the targeted cover type. Areas where only herbaceous vegetation is proposed are scheduled to be revegetated with native grass seed, which should establish more quickly and densely than the performance standard requires. We recommend modifying this performance standard to require 50 percent coverage after Year 1, 75 percent coverage after Year 5, and 90 percent coverage after Years 5, 7, and 10.

Performance Standard B4 states: "Total percent areal woody plant coverage must be at least 35% by the end of Year 4, 50% by the end of Year 5, 55% by the end of Year 7, and 65% by the end of Year 10." Given the density of the proposed plantings, and in accordance with typical performance standards approved in the City of Issaquah, we recommend higher targeted native woody cover. We recommend modifying this performance standard to require 60 percent coverage by the end of Year 5 and 80 percent coverage by the end of Year 10.

7. Provide a contingency plan for the on-site mitigation.

<u>Additional Comments</u>: This comment has been sufficiently addressed. We have no further comments.

8. Prepare a bond quantity worksheet in accordance with IMC 18.10.810 and Development Agreement Appendix J 13.0.

Additional Comments: The applicant has provided a bond quantity worksheet (BQW). The BQW includes all the required elements. However, since the applicant used the King County BQW, a 30 percent contingency is included. Under IMC 18.10.490.D, a performance surety of 150 percent of the mitigation cost is required. Additionally, the amount of woodchip mulch appears to be erroneous. The BQW includes mulch for a total area of 39,179 square yards, which substantially exceeds the total restoration area. The BQW should be revised to incorporate these changes.

9. Provide additional buffer areas for the maintenance access point within the Wetland E buffer.

<u>Additional Comments</u>: Since the applicant does not maintain control over areas where the buffer could be expanded, the applicant is proposing to purchase additional buffer credits from the Keller Farm Mitigation Bank to mitigate for this impact. We agree that this is a reasonable approach and will ensure no net loss of buffer function. We have no additional comments.

10. Provide additional buffer or mitigation for the proposed trail in the Tibbetts Creek buffer.

Additional Comments: The applicant has clarified that the proposed trail in the Tibbetts Creek buffer is included in the Development Agreement and is, therefore, an allowed use that does not require additional mitigation. We agree that the trail is allowed within the buffer. However, additional mitigation is required to maintain consistency with the Development Agreement (See Comment 11 below).

11. Remove the proposed trail from the Northern Enhancement Area square footage calculations. Additional buffer restoration may be required to maintain consistency with the Development Agreement Appendix J 7.0.B.1.b.3.

Additional Comments: Per the Development Agreement, a total of 0.6 acres of (26,136 square feet) of stream buffer is to be enhanced. The applicant proposes to enhance 26,154 square feet of the Tibbetts Creek buffer in accordance with this requirement. However, the unvegetated trail is located within the proposed enhancement area and is included in the 26,154-square-foot area calculation. The trail, while allowed in the buffer per the Development Agreement, cannot be quantified as part of the required 0.6 acres of Tibbetts Creek buffer enhancement. In order to achieve the required 0.6 acres of restoration, the trail must be excluded from the total enhancement area calculations; relocated outside of the buffer enhancement area; and/or offset with additional riparian buffer enhancement that is equal to or greater than the area of the trail.

12. Note that the project as designed will require a shoreline variance.

<u>Additional Comments</u>: The applicant has submitted for a shoreline variance, which is under review by the City of Issaquah. We have no further comments.

The applicant proposes mitigating permanent wetland and buffer loss through the purchase of mitigation bank credits from the Keller Farm Mitigation Bank. Use of an approved mitigation bank for unavoidable wetland impacts is allowed under IMC 18.10.720.I. With the revision of Wetland E to a Category I wetland, the credit to impact ratio for wetland impacts is determined

on a case-by-case basis. The applicant has proposed a ratio of 1.5:1 and is in negotiations with the Interagency Review Team (IRT) to determine if the ratio and the resulting total of 0.0288 credits (for wetland and buffer impacts) is sufficient. The IRT is the appropriate authority for determining the final mitigation ratio, and we recommend the City of Issaquah defer to their determination.

Recommendations

- 1. Revise Performance Standard B3 to require 50 percent coverage after Year 1, 75 percent coverage after Year 5, and 90 percent coverage after Years 5, 7, and 10.
- 2. Revise Performance Standard B4 to require 60 percent coverage by the end of Year 5 and 80 percent coverage by the end of Year 10.
- 3. Revise the BQW to include a contingency of 50 percent, such that the total performance surety equals 150 percent of the cost of the mitigation and maintenance.
- 4. Verify the amount of woodchip mulch that will be placed in the mitigation area and revise the BQW accordingly.
- 5. Exclude the area of the pedestrian trail from the required/proposed 0.6 acres of Tibbetts Creek riparian restoration. A minimum of 0.6 acres of restoration must be achieved without including the area of the trail. The trail may be relocated outside of the required riparian restoration area or additional restoration may be provided to offset the area of the trail.
- 6. The City should complete a final review of the proposed mitigation bank use plan for compliance with IMC once the IRT has determined the appropriate mitigation ratio.

Please call if you have any questions or if we can provide you with any additional information. Sincerely,

Ryan Kahlo, PWS Senior Ecologist 1601 Fifth Avenue, Suite 1600 Seattle, WA 98101 206.622.5822 kpff.com



June 8, 2022

Doug Yormick Associate Environmental Planner City of Issaquah Department of Planning and Development PO Box 1307 Issaquah, WA 98027

Subject: Hyla Crossing Pumped Stormwater Discharge

Lake Sammamish Level Study

Dear Doug:

Based on public comment during the City's requested neighborhood environmental review (post Planned Action Ordinance and associated Project level SEPA MDNS) over the Hyla Crossing Pumped Stormwater Discharge (Project) near shore outfall to Lake Sammamish, the city requested Rowley Properties to study the Project's effect on Lake Sammamish's water level. Attached to this letter is the requested analysis by West Consultants, Inc., a respected local hydrologic and water resources engineering firm.

PROJECT DESCRIPTION

Currently, the majority of stormwater runoff from approximately 48 acres of Hyla Crossing is conveyed mostly un-detained via catch basins and pipes to Tibbetts Creek via existing outfalls and the WSDOT I-90 East-Bound ditch. During the preparation of the Hyla Crossing Master Development Agreement, it was determined that traditional buried or surface storm detention was infeasible due to the extremely poor soils and high groundwater table. The solution documented in the Master Development Agreement and approved by a Final SEPA Mitigated Determination of Non-Significance was to pump the equivalent of the storm detention requirement to Lake Sammamish. In essence, the proposed pump station is a substitute for a typical storm detention system.

The Project did consider traditional detention onsite with discharges only to Tibbetts Creek. The detention vault required to achieve the same hydraulic performance as the pump station would contain approximately 558,000-cubic feet of storage. The excavation for this vault would be approximately 20-feet deep to allow gravity flow from upstream storm drain systems. Given the high groundwater table on the site, the uplift pressures on this large of a structure at ±20-foot depth would be infeasibly high to resist with traditional structural methods. Vertical soil anchors were considered to resist uplift on the vault floor; however, the peat soils make those infeasible as well.

Attached appendix contains exhibits that visually explain the scope of the Project.

ENVIRONMENTAL COMPLIANCE

The City of Issaquah drainage manual, as well as all other Western Washington drainage manuals, designate Lake Sammamish as a Flow Control Exempt Receiving Water Body. Essentially, this means that the lake and its outfall have sufficient capacity to accept runoff from current and future developments within its drainage basin with no significant environmental damage. This designation allows for direct discharge of stormwater to the lake from new development without any flow control. Water quality standards are, of course, still applicable to lake discharges.

Tibbetts Creek is listed as a fish bearing water body and is therefore subject to the Flow Control Performance Standard. This standard is intended to mimic forested or wetland conditions that were present prior to original development in which natural land conditions release stormwater runoff slower than developed land conditions. Increased rate of stormwater discharge due to hard surface development cause erosion and sedimentation buildup in the stream channel that harms fish spawning viability.

The Project proposes to divert the excess stormwater generated from new development from the sensitive Tibbetts Creek to the more robust and flow control exempt Lake Sammamish. Base flows to Tibbetts Creek are maintained to preserve its aquatic habitat. By protecting Tibbetts Creek through the diversion of excess flows to Lake Sammamish, the Project is proposing the better environmental solution in compliance with the City of Issaquah drainage manual.

SUMMARY

The residents along the southern shoreline of Lake Sammamish have realized real impacts to their shoreline improvements caused by extreme weather conditions and the way the lake outfall is managed. By bringing this to our attention, we have responded by:

- 1. Hiring West Consultants to analyze the Project's contribution to the lake level. As shown in the attached study, the Project's contribution to lake level is negligible.
- Engaging King County to better understand the issues associated with the lake basin. We
 now understand this year King County will be hiring a consultant to perform a
 comprehensive lake study to develop recommendations for improvements and managing
 the lake basin.

Sincerely,

Martin F. Chase, PE

Principal

1800530

Technical Memorandum

WEST Consultants, Inc.

12509 Bel-Red Road, Suite 100 Bellevue, WA 98005-2535 (425) 646-8806 (office) (425) 646-0570 (fax) www.westconsultants.com



Date: June 7, 2022

To: Chris Borzio, KPFF

From: Raymond Walton, PhD, PE, D.WRE

Subject: Lake Sammamish Impacts from Hyla Crossing Stormwater Discharges

1. INTRODUCTION

The Hyla Crossing Pumped Stormwater Discharge project is intended to manage flows from a future development of 47.7 acres of Commercial Property in Issaquah, Washington. The project proposes to manage on-site stormwater by pumping the predeveloped base flow runoff directly to Tibbetts Creek and the equivalent of the storm detention requirement pumped directly to Lake Sammamish. Post-developed overflow runoff exceeding the storm detention requirements would gravity flow to Tibbetts Creek similar to a typical storm detention system. In essence, the proposed pump station is a substitute for a typical buried storm detention system.

Concern has been raised that these discharges to Lake Sammamish will ultimately raise levels in Lake Sammamish and negatively alter lakeside structures. The purpose of this technical memorandum is to evaluate these questions below.

From a hydrologic and hydraulic (H&H) point of view, the two questions to be addressed are:

- 1. Will the discharges from the development cause any increase in water surface elevations (WSELs) in Lake Sammamish compared to existing conditions, and
- 2. Will the pumped discharge to the small cove to the west of where Tibbetts Creek enters Lake Sammamish significantly elevate WSELs in the cove, and impact the docks of nearby homeowners?

2. Impacts to Water Levels in Lake Sammamish

KPFF is evaluating a design concept in which stormwater runoff from the site is split between a discharge to Tibbetts Creek that mimics a pre-development condition and discharging excess flow to a cove of Lake Sammamish just to the west of where Tibbetts Creek enters Lake Sammamish ("Proposed" Condition). In addition, they are comparing the effects of stormwater detention ("Detention" Condition) to the "Proposed" Condition. In the "Detention" Condition scenario, they

considered a vault that would collect and store stormwater and release it to Tibbetts Creek so as not to exceed the maximum pre-development discharge. The concern expressed by some property owners is that the stormwater discharges from project site to Lake Sammamish could increase water surface elevations (WSELs) in Lake Sammamish.

To evaluate the potential impacts of stormwater discharges on WSELs in Lake Sammamish, KPFF provided output from a hydrologic model run for a 60-year period for "Existing", "Proposed", and "Detention" conditions. The results were provided as hourly discharges. Table 1 lists the average stormwater discharge for each condition modeled. The table also lists the maximum difference in hourly discharges compared to "Existing" conditions. This would be the upper limit of any increase in flow that might be seen at the outlet weir at the north end of Lake Sammamish.

Table 1. Average Stormwater Discharges

Condition	Average Stormwater	Maximum Hourly Discharge (date)	Maximum Increase in Hourly Discharge	Maximum Increase in 24-hour running
	Discharge		,	average discharges
Existing	0.23 cfs	33.9 cfs (11/4/1998)		
Proposed ¹	0.22 cfs	31.8 cfs (11/4/1998)	0.4 cfs	0.3 cfs
Detention	0.22 cfs	Discharge smoothed	9.4 cfs	4.7 cfs

Note: 1 "Proposed" condition includes discharges to Tibbetts Creek and the pumped runoff to the Cove

Lake Sammamish is about 7.3 miles long and has an average depth of 58 feet. Therefore, the wave celerity (wave speed) is approximately 43.2 ft/sec and the travel time of a gravity wave from the mouth of Tibbetts Creek to the north end of the Lake is approximately 15 minutes. There is an overflow weir in Marymoor Park that controls water levels in Lake Sammamish and outflows to the upper Sammamish River. This travel time is significantly less than the interval (one hour) of the results from the hydrologic model, and therefore we can assume that discharges to the south end of Lake Sammamish are "felt" at the northern end, and the overflow weir, within the resolution of the hydrologic model's output. We can also assume that, to first order, Lake WSELs are essentially flat, in the absence of non-discharge conditions (such as wind).

The average annual discharge at USGS streamflow gauge 12125200, Sammamish River Near Woodinville, is 311 cfs. However, the County believes that discharges from Lake Sammamish are influenced by backwater from Bear Creek. King County has a gauge, M51, located in the Sammamish River but closer to the lake's outlet. Using available M51 data from July 2001 to May 2022, the minimum reported flow is 16.1 cfs. We will assume that this would be a "worst case" low discharge to the Sammamish River during conditions in which stormwater from the Hyla Crossing project is being discharged to Lake Sammamish, as the rainy season will generally see larger flows in the Sammamish River and higher Lake levels.

King County developed a hydraulic model of the Sammamish River and included Lake Sammamish at the upstream extent. The model also includes the outlet weir in Marymoor Park, Redmond that controls WSELs in Lake Sammamish. Table 2 shows the part of the elevation-volume curve developed for the hydraulic model that covers the operating range of Lake Sammamish.

Table 2. Lake Sammamish Elevation-Volume Table

Stage	Volume
20.4 ft NAVD88	238,751 ac-ft
32.6 ft NAVD88	296,143 ac-ft

The maximum hourly difference in stormwater discharges to Lake Sammamish is 0.4 cfs (Table 1). Using the information in Table 2, it would take a discharge of 0.4 cfs about 24 days to increase the Lake level by 0.01 and more than 2 days to increase it by 0.001 feet. And during any long averaging period, the averaged flow difference would decrease. For example, the maximum 2-day difference is 0.23 cfs, which would lengthen the appropriate averaging period.

To evaluate the difference in Lake Sammamish WSELs, we used the King County Sammamish River model to develop a rating curve of elevations versus flow at the outlet weir from Lake Sammamish. From this rating curve, an increase in outflow from the minimum value of 16.1 cfs (reported at King County's M51 gauge) by 0.23 cfs would increase the water surface elevation by only 0.003 feet. Under maximum (but unrealistic) detention basin conditions, the increase would be about 0.06 feet for a maximum daily increase of 0.47 cfs.

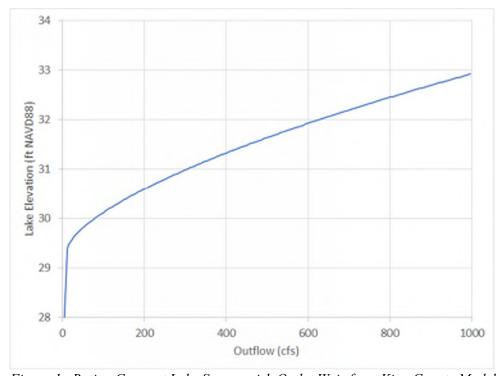


Figure 1. Rating Curve at Lake Sammamish Outlet Weir from King County Model of Sammamish River

This is a conservative estimate of "increases" in Lake Sammamish WSELs, and does not consider many other factors, such as wind and offsetting decreases in Lake WSELs.

3. Effect of Discharges to Cove West of Tibbetts Creek

The results of the hydrologic model show a maximum discharge to the cove at the north side of Lake Sammamish Park of 11.6 cfs. To evaluate the impact of this maximum discharge on WSELs in the cove, we developed a two-dimensional (2D) hydraulic model of the cove using HEC-RAS version 6.2. Figure 2 shows the 2D grid used, developed using a resolution of 20 feet, and the location of boundary conditions. A constant inflow of 11.6 cfs was specified at the inflow boundary and a fixed WSEL of 32 feet specified at the "Cove Boundary". A uniform Manning's n roughness value of 0.03 was specified.

The terrain was developed using a combination of (1) a bathymetric survey of part of the cove provided by KPFF, (2) 5-feet contours of the lake developed from soundings obtained by King County, and (3) the most recent LiDAR coverage of the area. These data were "blended" to match the boundary between 5-feet sounding contour data and LiDAR, and then imposing the site bathymetry where measured.

Figure 3 shows the terrain after all three data sources are "blended". As can be seen in the figure, the depths in the bathymetric survey area are up to 15 feet deeper than shown in the terrain developed without the bathymetric survey (Figure 4). As we would expect a greater increase in WSELs for shallower flows, we elected to use the terrain shown in Figure 4, without the bathymetric survey, to be conservative.

The results of the model (Figure 5) show an increase in WSEL of 0.00002 feet at the mouth of the smaller cover near the discharge location and no increase (to 5 decimal places) at the dock closest to the discharge location. These increases are well within the normal "no rise" criterion of 0.00 feet and represent no significant increases in WSELs.

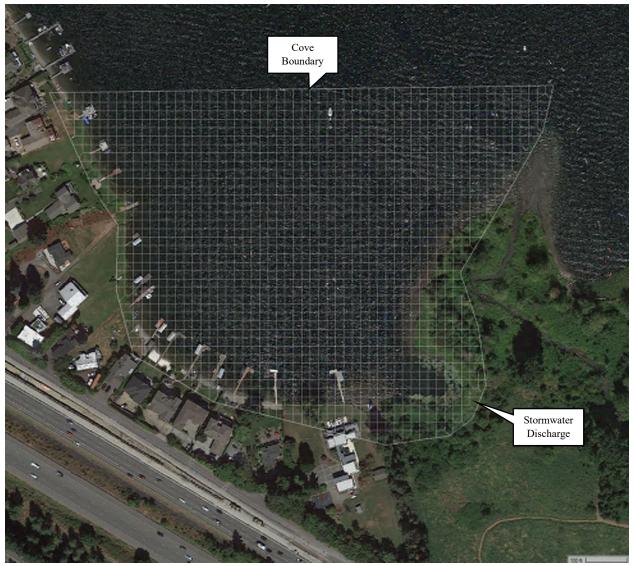


Figure 2. Grid Used to Evaluate Cove Discharge

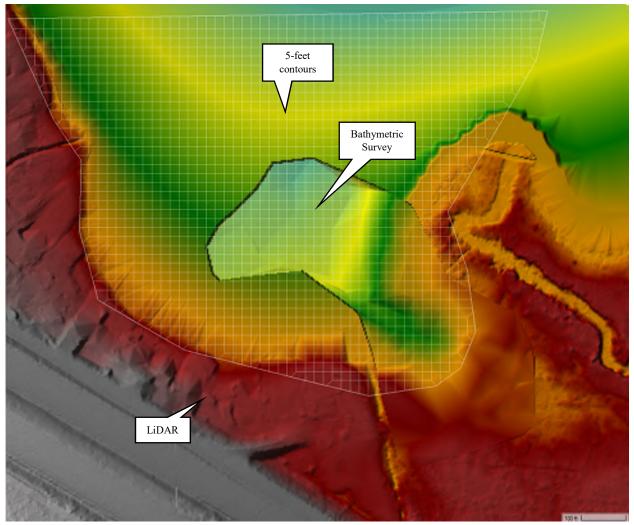


Figure 3. Blended Terrain for Cove Model

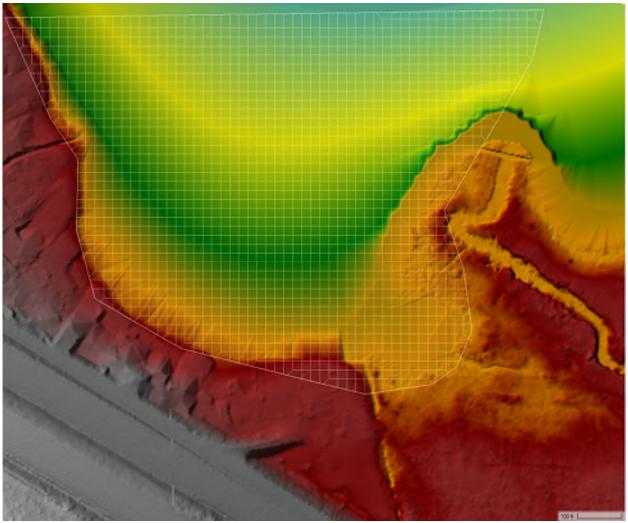


Figure 4. Blended Soundings and LiDAR for Cove Model



Figure 5. Maximum Increases in Water Surface Elevations

4. CONCLUSIONS

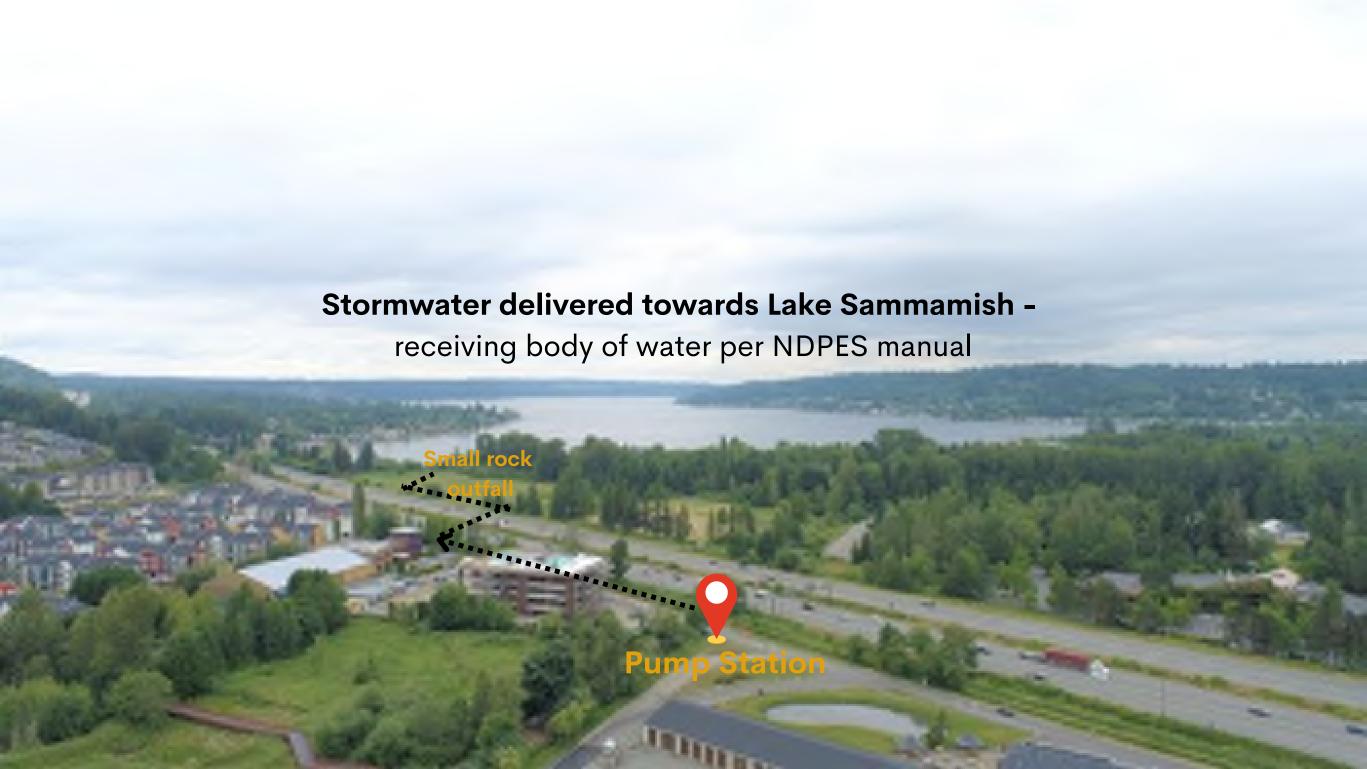
In addressing the two issues raised in the Introduction, the analyses showed:

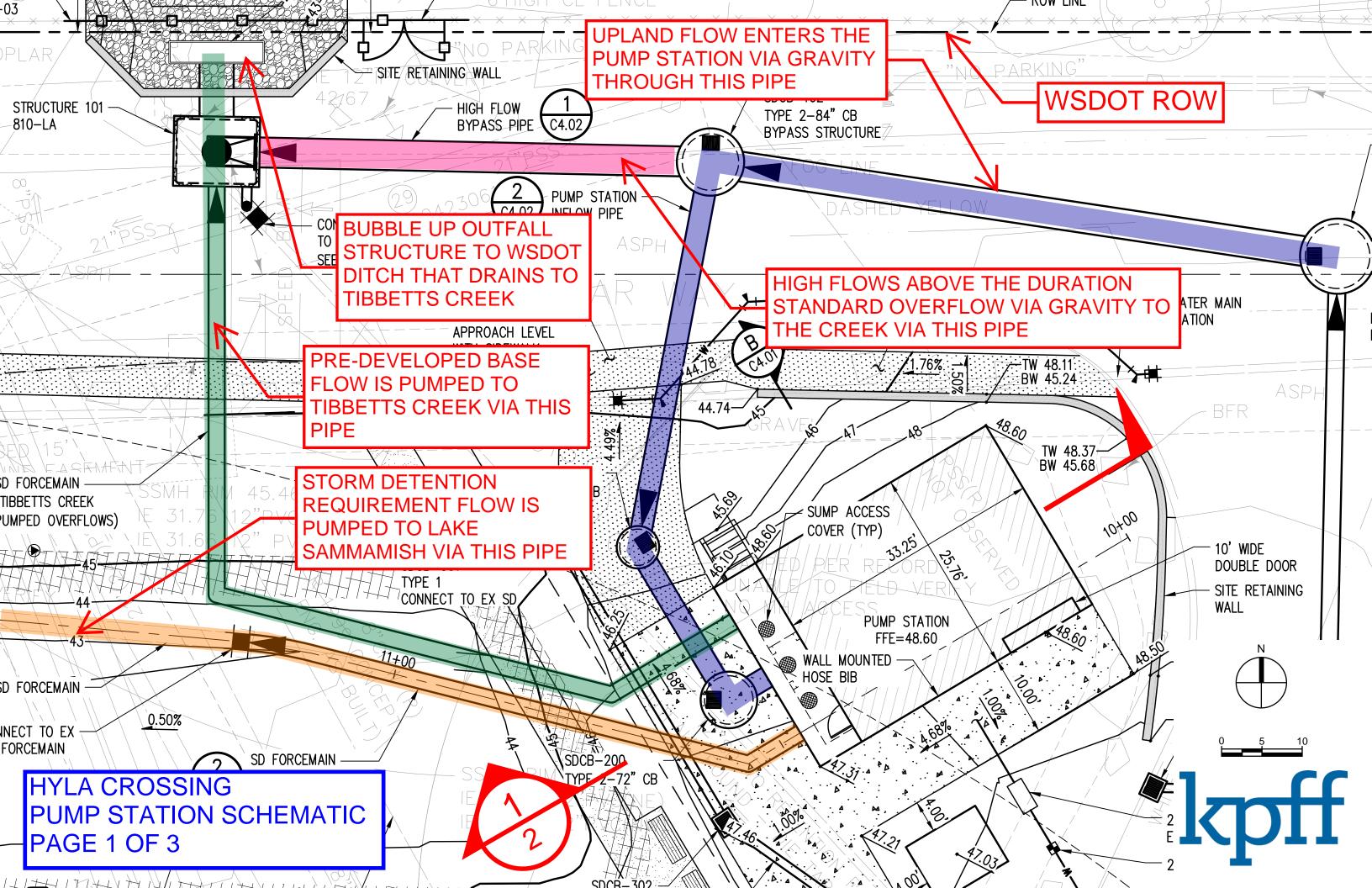
- 1. Overall Lake Sammamish WSELs would decrease as the project would decrease the average annual discharge from 0.23 cfs to 0.22 cfs under both "Proposed" and "Detention" conditions.
- 2. The analysis shows that under "Proposed" Conditions, the maximum increase in Lake Sammamish WSELs is 0.003 feet. This "worst case" estimate assumes high stormwater discharges from the Hyla Crossing Project during extreme low outflows from Lake Sammamish.
- 3. The maximum pumped discharge of water to the cove to the west of the mouth of Tibbetts Creek would result in no increase (to 5 decimal places) at the dock closest to the discharge location.
- 4. Both of these WSEL maximum increases are well within the normal "no rise" criterion of 0.00 feet (to two decimal places).

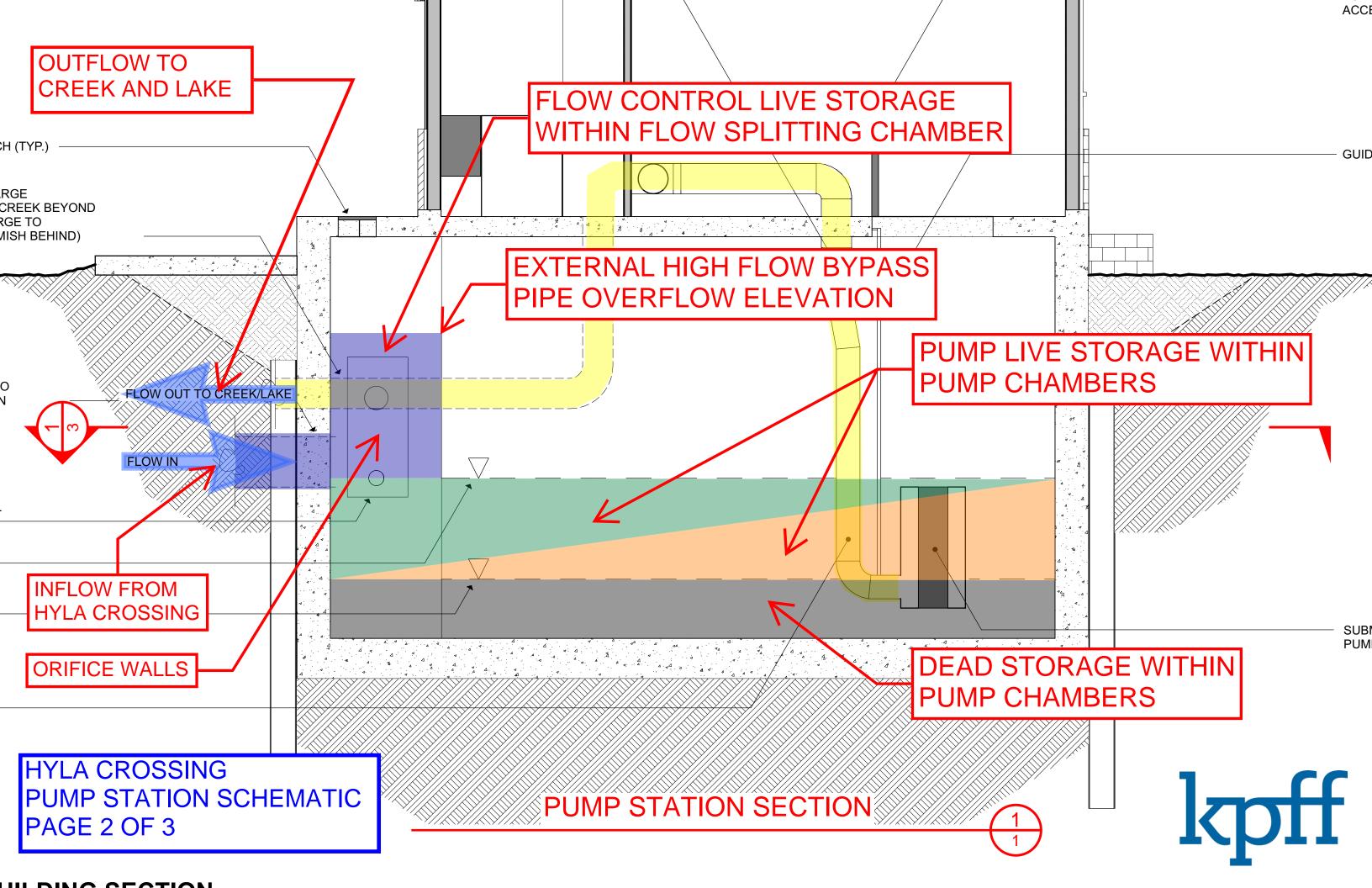
APPENDIX

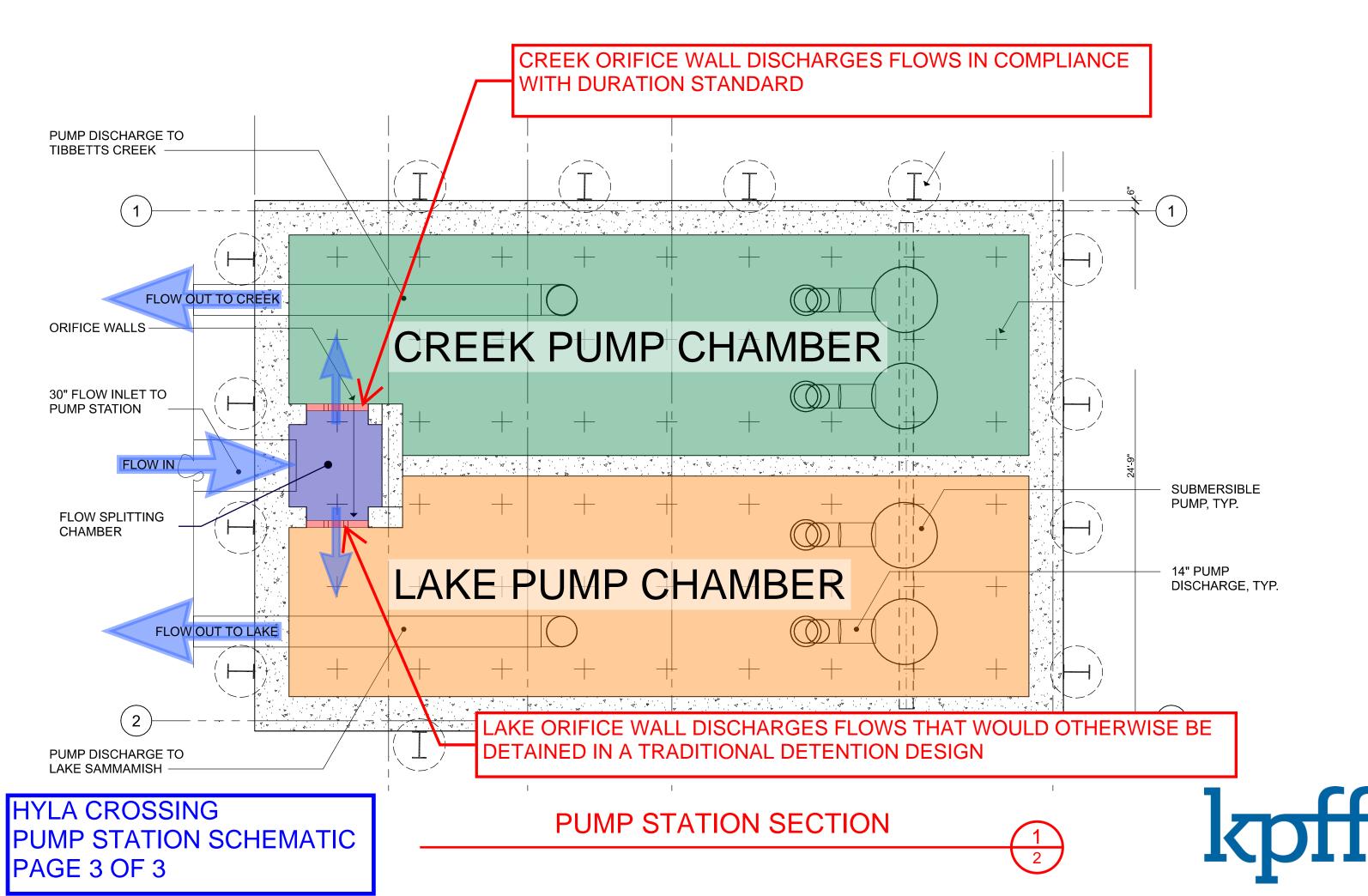
- Hyla Crossing Drainage Basin
- Pumped Stormwater Path to Lake Washington
- Pump Station Schematic Site Plan
- Pump Station Schematic Section
- Pump Station Schematic Pump Chamber











719 2ND AVENUE, SUITE 200 | SEATTLE, WA 98104 | P 206.394.3700

TECHNICAL MEMORANDUM

DATE: August 18, 2022

TO: Doug Yormik, City of Issaquah

Gary Schimek, City of Issaquah

FROM: Paul Fendt, PE

SUBJECT: Hyla Crossing Pumped Stormwater Discharge Lake Sammamish Level Study Peer Review

CC: John Phillips

Parametrix was tasked by the City of Issaquah (City) on July 28, 2022, to complete a peer review of the Hyla Crossing Pumped Stormwater discharge and Lake Sammamish level study. The review includes two documents: a cover letter dated June 8, 2022 from Martin Chase of KPFF and a technical memorandum (West TM) with appendix dated June 7, 2022 from Raymond Walton of West Consultants. No other materials were provided. I also reviewed other supplemental relevant background information from internet searches, such as the approximate surface area of Lake Sammamish (7.6 sq mi). The scope of the peer review was to review and comment on the provided materials and West TM conclusions, which are provided to address two questions:

Will the discharges from the development cause any increase in water surface elevation (WSELs) in Lake Sammamish compared to existing conditions, and

Will the pumped discharge to a small cove to the west of where Tibbets Creek enters Lake Sammamish significantly elevate WSELs in the cove, and impact the docks of nearby homeowners.

The review consists of considerations and comments on each section as presented in the West TM, followed by an opinion on the conclusions and findings of the West TM.

Introduction

The future development site area (the site) proposed for stormwater management is 47.7 acres. No information was provided as to the current land cover or soils in the existing or proposed condition, nor were modeling inputs provided. This review therefore defers the review of the modeling to others and is limited to the comparison of outputs presented in the West TM.

The basis of the comparison is an evaluation of the "split" management of stormwater flows from the site. The proposal seeks to send base flow to Tibbets Creek, pump detention-equivalent flows to Lake Sammamish via a pipe, and allow flows in excess of the stormwater detention requirements to overflow via gravity to Tibbets Creek. As noted in the West TM, this approach intends to manage (pump) the same stormwater as a normal stormwater management detention approach.

Comment: The proposal requires an assessment of the proposed flow split for the pump design. These are not completely fixed numbers – they can vary by event size, time of year, etc. While this flow pathway split is an important consideration for the design of this system, the difference in flow disposition is not a key consideration because the total amount of water to be pumped or discharged is the same in all conditions.

The West TM describes the obligation of the project to manage stormwater discharges to the "pre-developed" condition, modeling the amount of water to be detained in a vault system and discharged at the required pre-development rate. The project discharge rates were modeled and characterized by "average stormwater discharge" and "maximum hourly discharge" rates in Table 1 in the West TM (inserted below for quick reference). These are values to be used for a comparison of existing and future conditions to assess potential impacts on lake levels. Notably, the increased hourly discharge for the highest hourly discharge rate for the 60-years of record modeled is 0.4 cfs. When evaluated as a hydrograph over any 24-hour period, the increase is 0.3 cfs. While 0.3 cfs is more representative of the distributed volume of a large storm over a day, the 0.4 cfs would be more representative of an instantaneous peak flow. Additional discussion of applying this value is described below.

Table 1. Average Stormwater Discharges

Condition	Average Stormwater Discharge	Maximum Hourly Discharge (date)	Maximum Increase in Hourly Discharge	Maximum Increase in 24-hour running average discharges
Existing	0.23 cfs	33.9 cfs (11/4/1998)		
Proposed ¹	0.22 cfs	31.8 cfs (11/4/1998)	0.4 cfs	0.3 cfs
Detention	0.22 cfs	Discharge smoothed	9.4 cfs	4.7 cfs

Note: 1 "Proposed" condition includes discharges to Tibbetts Creek and the pumped runoff to the Cove

Table 1 shows that the proposed condition average stormwater discharge and maximum hourly discharge would decrease between the existing condition and proposed condition, and notes that the proposed condition includes Tibbetts discharges and pumped runoff. Unless there is a third stream of water diversion, infiltration, or other storage in the system that has not been described, it is unlikely that the flows would decrease as shown in the table. It is also unclear how the maximum increase in hourly discharge (column three) could be a positive number, when the 0.4 cfs difference under proposed conditions would appear to be the difference in maximum hourly discharge between existing and proposed conditions and the table shows a decrease.

No back-up information with modeling inputs or modeling results were provided for review, therefore it is not clear why the average and maximum hourly discharges decrease while the maximum increase in hourly discharge goes up 0.4 cfs in the "proposed" condition (and more in the detention condition). However, if using the increase of 0.4 cfs, the West TM goes on to describe the influence of an increase in 0.4 cfs alone on lake levels. The calculations made on the time to increase the overall lake level at this increased rate appear correct (using a lake area of about 7.6 sq mi). This is a reasonable approach to evaluating the potential to address study question 1, notably the potential for any increase, and if the increase of 0.4 cfs is correct, then the findings of no impact is correct.

When the maximum increase in hourly discharge and average discharge is applied as described, it is very unlikely that these concurrent events would occur as presented. For example, this is the rate (0.4 cfs) for the one-hour maximum, while the by comparison the maximum for a two-day period is reported in the West TM as 0.23 cfs. The shorter time frame would be expected to have a greater difference than longer time frames under these circumstances. However, the 0.4 cfs represents an increase, and the 0.23 represents existing conditions, which I believe has been done to demonstrate that the potential difference in scale of flow changes as the length of the flow comparison time (hydrograph length) increases. This comparison is reasonable for this purpose but the magnitude of the values cannot be confirmed without additional information.

The description of the use of hourly peak flow information and the relationship to the travel time of a "wave" on Lake Sammamish is reasonable and we have no additional comment on that methodology.

Regarding the use of stream gauges and information for establishing the potential downstream influences below the Lake Sammamish weir, we have not independently confirmed the data from weir or the unreferenced King County source, but due to my personal knowledge of the system from past investigations, these data are reasonable and in my opinion are unlikely to have any meaningful influence on the study question.

It is unclear how the data in Table 2 were used to assess potential rise due to increased flows. The storage volume at each stage could be used to reflect a stage-storage curve, which could be used to calculate the rise due to the increased flow. The lake surface area I described above has similar results, therefore the outcomes for lake rise estimates apparently using the stage-storage data are reasonable and I would concur with the findings using those input rates.

The evaluation using the rating curve for the outlet weir considered the average daily flow at low discharge levels, which would seem to have the greatest relevant influence on stages due to any increase in lake inputs. It is unclear why this was done, as it doesn't reflect potential stage increases at peak inflow and lake stages, which is where the overall concern is placed. It does, however, confirm the relative low influence of peak flows from this site on a system of this size by showing that if the weir had this flow increase applied, the stage of the lake would increase by the stages shown. This evaluation does not have a meaningful contribution to the findings.

Effect of Discharges to Cove West of Tibbetts Creek

This evaluation was prepared to determine if flow added to a particular location in the lake would cause an undue influence on stages or flows in a small cove west of the Tibbetts Creek inlet. A hydrologic model was prepared to estimate inflow rates and a hydraulic model was prepared to evaluate the movement of water in the cove.

No information was provided regarding hydrologic model inputs or results other than the 11.6 cfs reported in the West TM. This review therefore defers the review of the modeling to others and is limited to evaluating the results from the values presented in the West TM. The methodology described for establishing the bathymetric grid for the hydraulic model seem sound and we have no comments on the approach. The hydraulic model inputs of 11.6 cfs and WSEL of 32 feet are reasonable, and Manning's roughness values are within normal ranges. We have no comment on those inputs and rely on the professional judgement of the modeler.

No other hydraulic modeling inputs or results were provided for review, therefore this review defers the review of the modeling to others and is limited to evaluating the results from the values presented in the West TM. The outcomes shown with very low rises are expected and there is nothing in the provided findings to further comment on.

Conclusions

The West TM provided the following conclusion (in italics). Following each conclusion is our summary opinion on the findings.

1. Overall Lake Sammamish WSELs would decrease as the project would decrease the average annual discharge from 0.23 cfs to 0.22 cfs under both the "Proposed" and "Detention" conditions.

The amount of water coming from the 47.7 acre site discharging to the lake would not be decreased unless there was infiltration or storage introduced, although the rate could change slightly. Neither was described, therefore it is unlikely that WSELs would decrease. However, the magnitude of possible rate increases presented or additional water volume, if any, would not be large or significant in scale with the size of the lake. I concur that the probable lake level increase, if any, would be very small to unmeasurable and not impactful.

2. The analysis shows that under "Proposed" Conditions, the maximum increase in Lake Sammamish WSELs is 0.003 feet. This "worst case" estimate assumes high stormwater discharges from the Hyla Crossing Project during extreme low flows from Lake Sammamish.

This part of the analysis does confirm the relative low influence of peak flows from this site on a system of this size by showing that if the weir had this flow increase applied, the stage of the lake would increase by the amount shown. It does provide a meaningful demonstration of the magnitude of water level changes required to make a measurable difference. I have no other comment on this finding.

3. The maximum pumped discharge of water to the cove to the west of the mouth of Tibbetts would result in no increase (to 5 decimal places) at the dock closest to the discharge location.

We did not review the modeling results, but the methodology used is appropriate to address this question and results presented appear to be reasonable. We concur with this finding subject to model review by others.

4. Both of these WSEL maximum increase are well within the normal "no rise" criterion of 0.00 feet (to two decimal places).

This statement is true in that this is the normal standard applied for flood management and the findings presented show this criterion is met.

Additional comment:

The Depart of Ecology Stormwater Management Manual for Western Washington has identified Lake Sammamish as a "flow exempt receiving water", which means Ecology has determined that the impacts of flow discharges from development sites applying the manual are not expected to be significant and that those discharges meet the requirements of the permit. Ecology does not require additional information or demonstration of status or impacts to flow exempt waters. The project does appear to meet the requirements of the Ecology manual as described in the approach and subsequent findings.

Final MITIGATED DETERMINATION OF NON-SIGNIFICANCE SEP11-00005

DESCRIPTION OF PROPOSAL: Construction of a stormwater treatment system, 1,400 sf pump station, 42-inch force main discharge pipeline to Lake Sammamish and related appurtenances.

PROPONENT Sheldon Lynne, Director of Public Works Engineering City of Issaquah

LOCATION: Hyla Crossing, I-90, Greenwood Trust (Sammanish Cove Park – Exhibit 3) Property, Lake Sammanish (see Exhibit 1)

LEAD AGENCY: City of Issaquah

The Responsible Official of the City of Issaquah hereby makes the following Findings of Fact based upon impacts identified in the environmental checklist and the "Final Staff Evaluation for Environmental Checklist No. SEP11-00005, and Conclusions of Law based upon the Issaquah Comprehensive Plan, and other Municipal policies, plans, rules and regulations designated as a basis for the exercise of substantive authority under the Washington State Environmental Policy Act Rules pursuant to RCW 43.21C.060.

FINDINGS OF FACT:

1. The proposed action includes:

Utilities and excavation for a stormwater treatment system and pump station, landscaping, wetland, creek and lake mitigation and paving for parking and maneuvering areas. The project will occur on approximately 1½ acres with a linear distance of approximately ½ mile of piping. Construction estimates are as follows:

Estimated Total Cut for Project = 15,325 cu. yd.

Estimated Total Compacted Fill Needed for Project = 12,940 cu. yd.

Estimated Total Uncompacted Fill Needed for Project (Assuming 20% Shrinkage Factor) = 15,528 cu. vd.

The project proposes approximately 8,000 sf of disturbance in the wetland north of I-90 and 15,500 sf of disturbance in the associated buffer and the buffer for Schneider Creek. Approximately 100 square feet of disturbance is expected in Tibbetts Creek and 3,000 sf in its associated buffer. A gravel-surface maintenance road would be placed over the portion of the pipe that parallels NW Sammamish Road. (See responses to Public Comment for more detailed listing of disturbance areas).

- Soil movement, generated through grading and excavation activities, could potentially cause erosion and sedimentation impacts on the area water courses, wetlands and surface water system unless mitigation measures are implemented.
- Temporary truck trips generated by the import/export hauling operations will likely cause adverse impacts to traffic operations on local streets during peak traffic hours and thus generate increased levels of local suspended particulate emissions unless mitigation measures are implemented.
- 4. Without mitigation measures in place, site preparation and construction activities will generate increased levels of local suspended particulate emissions.

- 5. The project site contains both stream and wetland critical areas as delineated by the Watershed Company in July 2011; and, Lake Sammamish as a waterbody of Statewide significance.
- 6. The project could potentially cause disruption to the functions and values of the on-site wetlands and streams and Lake Sammamish if mitigation measures are not included.
- 7. The construction of impervious surfaces (pump station and pipe corridor) will adversely impact the area's natural features unless mitigating measures are implemented.
- 8. Proper location, design, construction and maintenance of the project's storm drainage facilities are necessary to ensure protection of water quality while avoiding adverse aesthetic and environmental impacts. The pipeline would be permitted under IMC 18.10.420 (Public agency and utility exemption). To be allowed under IMC 18.10.420, the following criteria must be met:
- 1. There is no other practical alternative to the proposed development with less impact on the critical area. There is no route to the lake that avoids all impacts.
- The proposal minimizes the impact on critical areas. The pipeline has been located to be outside
 of the Schneider Creek critical area and buffer; and, has been located to minimize intrusion into
 Wetland A.
 - 3. Mitigation measures are proposed as needed to avoid any significant adverse impacts to the critical area. The construction plans will be accompanied by a mitigation plan that will look to minimize the impacts from construction and add vegetation that will improve the critical areas.
- 9. The proposal will require removal of existing vegetation over the portion of the pipe alignment north of I-90.
- 10. Due to the parcel's location along a stream bank, given the historical significance waterways have played in past cultures, there exists the potential for historic and/or cultural artifacts to be located on the property.
- 11. The City does not own adequate property south of I-90 for the pump station and treatment facility.
- 12. The pipe is proposed across property designated "Community Facilities Open Space".
- 13. The pump station may have a visual impact on the surrounding area.
- 14. Utilities are generally available in the vicinity.
- 15. The previous environmental documents identified in the Final Staff Evaluation and their supporting documents are hereby incorporated by reference as though set forth in full. These documents are available for review at the Major Development Review Team offices.
- 16. The City received comments on the SEPA Checklist from Ms. Connie Marsh dated 12/12/2011 and Mr. David Kappler on 1/10/2012. Requests for clarification and comments were also received on the Proposed Decision from Ms. Connie March dated 21 February and 29 February; Ms. Erika Vandenbrande dated 22 February; Ms. Lisa Kreeger dated 22 February; and, Ms. Karen Walter dated 29 February. Concern was expressed over wetland impacts; creek impacts; Lake impacts; maintenance access through the Greenwood Trust property; and, stormwater discharge. These comments were addressed in the staff report (see Attachment 1).
- 17. The Final Staff Evaluation for Environmental Checklist No. SEP11-00005 is hereby incorporated by reference as though set forth in full.

CONCLUSIONS OF LAW:

Staff have concluded that a MDNS may be issued. This decision is based upon the environmental checklist and its attachments, and the "Final Staff Evaluation for Environmental Checklist". The MDNS is supported by plans and regulations formally adopted by the City for the exercise of substantive authority under SEPA. The following are City-adopted policies which support the MDNS:

Land Use

- Coordinate land use planning and management of fish and wildlife resources with affected State 1.2.1 agencies and federally recognized tribes;
 - 1.3.1.2 establishing standards to minimize peak discharges and durations of storm water runoff;
 - 1.3.3.4 improving the local drainage system to reduce the extent and duration of flooding.
- Streamside Property: Explore methods to provide incentives to streamside property owners for 1.6.1 enhancement of riparian habitat.

Utilities

- Ensure utility provision maximizes public safety, minimizes adverse 1.2.1 Utility Provision: environmental impacts, and is compatible with surrounding land uses.
- Design and Construction Standards: Include design and construction standards which are environmentally sensitive, safe, cost effective and consistent with the serving utilities' public service obligations.
- Public Facilities: Manage public facilities systems in order to provide reliable, quality service and require that the location, type and size of all public facilities be determined and/or approved by the City. The extension and sizing of public facilities shall be based on and be consistent with the land use plan for the specific area.
- New development or redevelopment shall: 4.1.1
 - 4.1.1.1 Use the King County Surface Water Design Manual, as amended, as design standards for stormwater and water quality facilities;
 - 4.1.1.2 Mitigate, through the development review process, any related increase in City storm drainage service needs.
- Storm drainage facilities shall be designed to: 4.1.2
 - 4.1.2.1 Minimize potential erosion and sedimentation;
 - 4.1.2.2 Encourage retention of natural vegetation;
 - 4.1.2.3 Infiltrate stormwater wherever feasible using low impact development techniques;
 - 4.1.2.4 Maintain stream base flows;
 - 4.1.2.5 Preserve natural drainage systems such as rivers, streams, lakes, and wetlands;
 - 4.1.2.5 Provide adequate capacity for future planned growth consistent with the Comprehensive
- Flood Protection: Coordinate with property owners adjacent to the Issaquah and Tibbetts U-4.2 Creeks to increase flood protection, to the greatest extent feasible through both public and private projects, at the following levels of protection:
- Tibbetts Creek. The level of protection, as provided by the Tibbetts Creek Greenway Project, is 4.2.2 the 100-year event.

- 6.1.1.1 Encourage the utilities to solicit community input on the siting of proposed facilities which may have a significant impact on the surrounding community prior to seeking City approval for facilities. Substations, reservoirs, and necessary similar above ground utility structures should be appropriately sited, designed and buffered to minimize impacts on nearby uses.
- 6.1.1.2 Require the reasonable screening and/or architecturally compatible integration of all new above-ground facilities, as long as facility safety and emergency access are not compromised.
- U-6.6 Environmentally Sensitive Areas: Avoid facilities such as utility lines and roadways within areas of severe environmental sensitivity. If needed to serve more distant development sites, such facilities should be sized and sited to minimize impacts. Within areas of moderate environmental sensitivity, facilities should be sized and sited in accordance with the existing site conditions.

Parks

- P-2.5 Native Vegetation: Within the City's designated open space natural areas, including Native Growth Protection Areas, restoration, enhancement, and stewardship projects shall use vegetative species native to the State of Washington and as appropriate for the project site plant community.
- P-2.6 Native and Drought Tolerant Vegetation: Within the City's parks and streetscapes, native and drought tolerant species shall be emphasized and used as appropriate for the project site.

CONDITIONS:

The lead agency for this proposal has determined that it does not have a probable, significant adverse impact on the environment, and an environmental impact statement (EIS) will not be required under RCW 43.21C.030(2)(c), only if the following conditions are met. This decision was made after the review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public upon request.

- 1. Prior to the issuance of any construction, the City or its agent must either obtain land or the legal rights to site the pump station and treatment facility south of I-90; and, the permits from WSDOT to cross I-90; and, the necessary permits and approvals to work with the Sammamish Cove Park property and in Lake Sammamish.
- 2. Following construction, provide a report to the Responsible Official by a qualified professional regarding applicability and success of the following project recommendations:
 - a) Locate submerged outfall outlets a suitable distance from areas of high fish use; or, provide suitable habitat to minimize potential for fish exposure.
 - b) Locate the outfall to minimize the potential for sediment disturbance, sediment transport, or substrate alteration in areas of high fish use.
 - c) Implement established protocols and agency guidance BMPs, TESC, sound attenuation and critical area protection during construction.
 - Locate all outfall structures below the depth of light penetration or below the maximum depth of plant growth.
 - e) Locate the outfall in an area of pre-existing immobile substrate to avoid scour associated with the anticipated discharge velopcities.
 - f) Implementation of specific construction methods to minimize impacts to the lake bed and vegetation.
- 3. The portion of the pipe north of I-90 will be redesigned consistent with Exhibit 5 to remove the gravel access road. This entire pipe corridor through the park will be revegetated.
- 4. Construction equipment through the park property shall be limited to the pipe corridor 20 feet in width through the Park property.

- 5. Prior to the issuance of any construction permits, a temporary grading, drainage, erosion and sedimentation control plan is required. This plan shall show: quantities and locations of excavations, and embankments; the design of the storm drainage system; and, methods of preventing drainage, erosion and sedimentation from impacting adjacent properties, critical surface water bodies and public storm drainage systems. The measures shall be implemented prior to beginning on-site filling, excavation, grading or construction activities. In addition, the plan shall include a construction sequence element which clearly identifies the timing and methodology required to:
 - Contain areas of active earthwork to prevent uncontrolled discharge of stormwater
 - Minimize the extent and time soils are exposed on-site; and,
 - Address seasonal variations in weather.
- 6. Prior to the issuance of permits for grading, the applicant must furnish the Responsible Official with a prepared route and schedule for hauling fill material to and from the site. If such hauling will adversely impact the street network, hauling hours will be limited to appropriate off-peak hours or routes.
- 7. The contractor shall be required to water the site, as necessary, to reduce dust emissions as a result of construction activity. The contractor shall also be responsible for sweeping of public streets which may become soiled as part of construction or hauling activities.
- 8. Should any items of potential cultural or historic significance be encountered during construction activities, work must be halted in an area large enough to maintain integrity and the State Office of Archaeology and Historic Preservation and the Muckleshoot Indian Tribe, as appropriate, should be immediately consulted.
- 9. All facilities must be designed to be compliant with the City's Phase II stormwater requirements.
- 10. Prior to issuance of any permits for construction, the site will be fenced to limit construction impacts on adjacent critical and Park areas. Fencing shall remain in place constantly during construction activities.
- 11. A Wetland Mitigation plan will be required to be prepared prior to commencement of construction activities. The plan will assess the impact area and will propose mitigation for the construction impacts and buffer replacement for the pipe corridor that will be installed following installation of the pipe. Included in the plan will be a row of trees planted generally at 40-foot spacing (or clustered) between the pipe corridor and Schneider Creek to provide a filtered visual buffer from the buried utility and the adjacent residence. The revegetated critical areas will be monitored for a minimum of 3 years to ensure plant establishment.
- 12. The pipe south of I-90 and the western bend where it parallels Schneider Creek will be completely below surrounding grade. Markers will be placed within the Park to designate the location of the buried pipe. The portion of the pipe that parallels NW Sammamish Road may be above adjacent grade but must be completely buried with sufficient topsoil to grow plant material (Exhibit 5).
- 13. Relocate the proposed pump station to not be within the Tibbetts Creek restoration area as identified in Exhibit 2; or, any other critical area or buffer.
- 14. To minimize the visual impact of this project on the surrounding neighborhood, the pump station will be reviewed by the Rowley Center/Hyla Crossing Architectural Review Committee (ARC).
- 15. Relocate the pipe to be east of the 100-foot buffer for Schneider Creek (Exhibit 4).
- 16. No stormwater will flow through the pipe until the treatment facilities are operational. As part of the Operations & Maintenance procedures of the water quality component of this project, the City will periodically monitor water quality of outflow to ensure performance of the treatment facility.

- 17. Provide copies of all State and Federal Permits to the Responsible Official prior to the issuance of any construction permits.
- 18. All disturbed areas will be revegetated per the plan identified in Condition 11 and an approved Landscape plan that will cover non-critical area Park land. The Proponent may combine the Critical Area revegetation plan with the Landscape Plan at their discretion.
- 19. Parties of Record (see attachment 1 of the Staff Evaluation) will be noticed when the wetland mitigation plan (Condition 11) is submitted for City review.
- 20. As part of the decision process to connect new property to the proposed facility, the City will conduct a flow test augmenting existing flows with potable water to achieve the expected flow rate with the new property. A sample of the water quality in the lake proximate to the outflow will be retrieved and tested. If the sample meets expectations, the additional property may be added to the system. If the sample does not meet design expectations, either the property will be denied; or, modification will be made to the outflow to attain the desired outcome.
- 21. No properties will be connected to the facility unless those properties limit metal-producing materials (e.g. galvanized, etc.) similar to the limitations contained in the Rowley ElS unless it can be demonstrated through subsequent SEPA review that other site-specific mitigations would result in a similar level of protection.

This MDNS is issued under WAC 197-11-355; the optional MDNS process. The Lead Agency observed a 21-day Comment Period has been observed and the final decision is rendered. There is no further comment period on the MDNS.

Any agency or person may appeal the Responsible Official's environmental determination. Appeals of this decision will be accepted until 5:00 PM, 29 March 2011. Appeals shall conform to the procedural and substantive requirements set forth in Issaquah Municipal Code §18.04.256 and shall be submitted to the City od Issaquah Permit Center at 1775 – 12th Avenue NW, Issaquah, WA 98027.

RESPONSIBLE OFFICIAL: POSITION/TITLE:

Keith Niven, AICP Economic Development Department 1775 – 12th Avenue NW Issaquah, Washington 98027 (425) 837-3430

DATE ISSUED: 14 March 2012

SIGNATURE:

NOTE: this determination does not constitute approval of the proposal. The proposal will be reviewed for and required to meet all appropriate City development requirements.

cc. Karen Walter, Muckleshoot Tribe Connie Marsh, IEC Erika Vandenbrande, SLS (e-mail) Lisa Kreeger (e-mail)

Exhibit 1 - Project Area

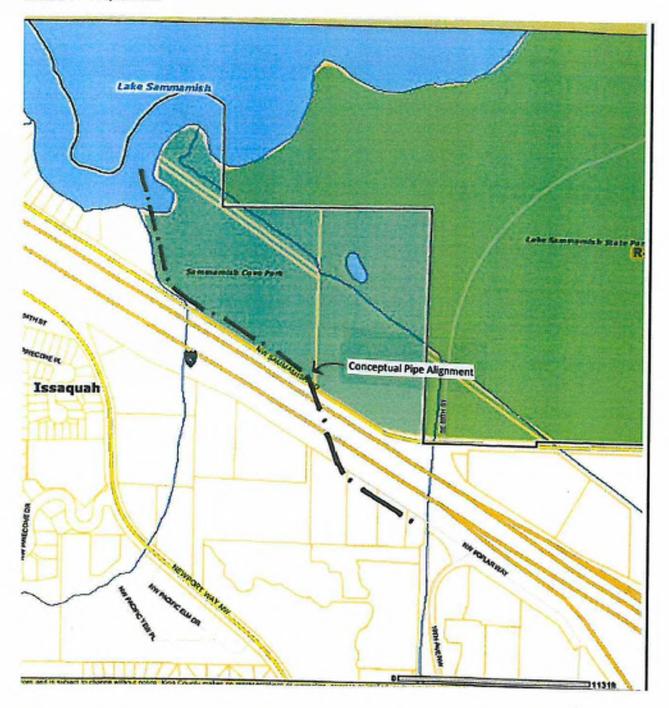
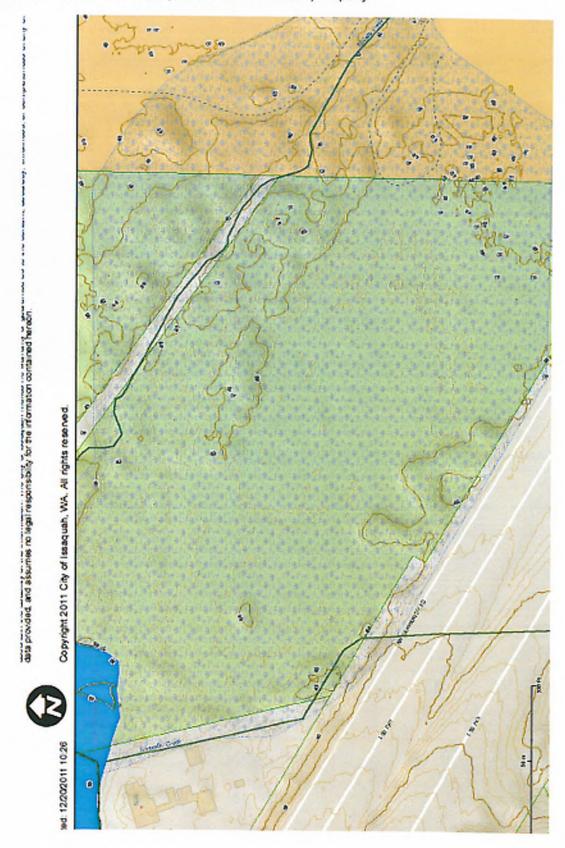
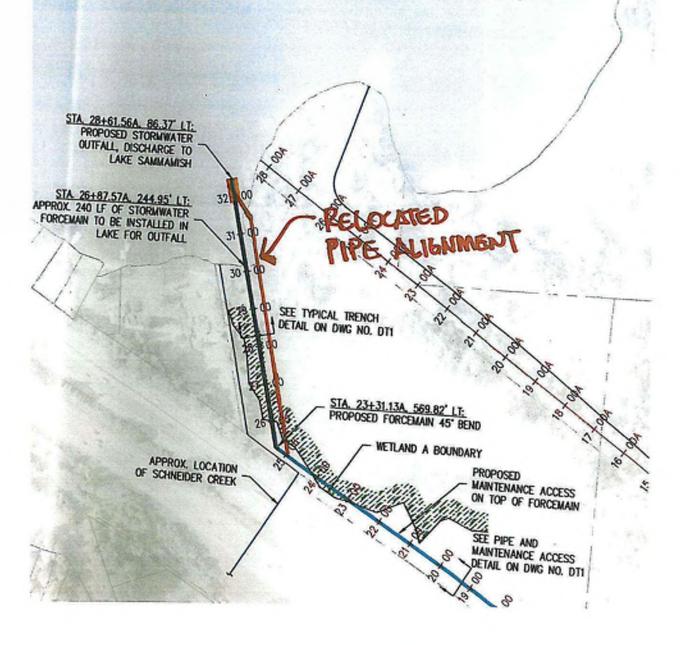


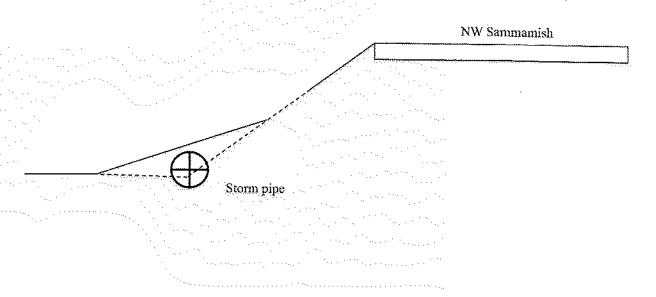


Exhibit 3 - Greenwood Trust (Sammamish Cove Park) Property



Lake Sammamish





CITY OF ISSAQUAH SEPA ADDENDUM

PROJECT NAME: Hyla Crossing Pumped Stormwater Discharge

PERMIT NUMBER: SEP11-00005

Other Permits: PRJ21-00006, SHO21-000010, SHO22-00007, ASDP20-00005

DESCRIPTION OF ORIGINAL PROPOSAL: Construction of a stormwater treatment system, 1,400 sf pump station, 42-inch force main discharge pipeline to Lake Sammamish and related appurtenances. The proposal evaluated under this Threshold Determination includes the following:

- Construction of a stormwater pump station (approximately 1,400 sf) south of I-90
- Construction of two stormwater treatment vaults south of I-90
- Installation of 42-inch pipe to convey stormwater
- Construction of a stormwater discharge pipe in Lake Sammamish

DESCRIPTION OF CURRENT PROPOSAL: In the original proposal the stormwater outfall was below ordinary high-water mark (OHWM) of Lake Sammamish to a water depth of 15-feet. The current proposal based on feedback from United States Army Corps of Engineers (USACE), State of Washington Department of Ecology (Ecology), State of Washington Department of Fish and Wildlife (WDFW), and the Muckleshoot Tribe has a nearshore outfall located 10' above OHWM.

PURPOSE OF ADDENDUM: The purpose of an addendum is to add new information and analysis to the original SEPA threshold determination.

The original SEPA determination (Exhibit 3) discussed an outfall below OHWM of Lake Sammamish. During preliminary pre-application meetings with Ecology, USACOE, and other stakeholders, it was determined the below OHWM was infeasible. Factors included a much longer pipeline to reach appropriate depths, impacts to fish habitat, among others. An upland outfall was deemed appropriate and the least impactful alternative.

Additionally, during public comment of SHO21-00007, SHO22-00010 and neighborhood environmental meeting nearby residents brought up increased flood concerns for the cove adjacent to the proposed outfall. Based on those findings and public comment, Staff asked for a Lake Level analysis to explore any potential impacts to flooding in the cove. The report was peer reviewed by Parametrix.

ORIGINAL DOCUMENT: The City of Issaquah, as lead agency, issued a SEPA Mitigated Determination of Non-Significance (MDNS) on March 14, 2012, for the Hyla Crossing Pumped Stormwater Discharge.

The original SEPA checklist (Exhibit 1) stated an outfall in Lake Sammamish and the response to B3(2) from the original checklist is included below (italics) along with additional information analyzed for this addendum.

1. B.3(2) Will the project require any work over, in, or adjacent to (within 200-feet) the described waters? If yes, please describe and attach plans.

Yes. Work will occur within 200 feet of, or in all the described waters See project description above and attached plans.

The preferred alternative for installing the pipe in Lake Sammamish is Alternative 3, "Deep Offshore Outfall", as analyzed in the Preliminary Environmental Analysis Report: Hyla Crossing Stormwater Outfall Location, prepared by Herrara Environmental Consultants, 2011.

Lake Sammamish is a Shoreline of the State and Shoreline of Statewide Significance as described in the original SEPA checklist.

Additional Information: The description of Lake Sammamish as a shoreline of the state and shoreline of statewide significance remains unchanged. However, the location of the outfall was analyzed as a deep-

water structure at a depth of 15-feet on the lakebed. Additional analysis of a nearshore outfall was completed (Exhibit 4) and does not result in any change in the SEPA determination.

2. The applicant's consultant KPFF Engineering also prepared a study dated October 2022 to model runoff comparisons to show the change in flow and selected return frequency under pre-development (forested), existing, and proposed conditions for the 1-hour and 15-minutes times steps. This study was also peer reviewed by the City's consultant Parametrix. Using either time step method results in improvement from existing conditions. No additional environmental impacts were identified.

3. PUBLIC COMMENT:

Sammamish Cove Flooding Impacts

During public comment for the Shoreline Substantial Development and Shoreline Variance permits residents voiced concerns about localized flooding impacts in Sammamish Cove. Especially, during periods of prolonged heavy precipitation.

The original SEPA checklist provided anticipated flow rates during precipitation events, including 100-year storm events. The checklist described the runoff generated by Hyla Crossing already enters both Tibbetts Creek and Lake Sammamish and no additional stormwater will be generated and sent to Lake Sammamish.

Additional Information: After receiving public comment Staff asked the applicant to provide a Lake Level analysis (Exhibit 5) to further document any localized impacts to Sammamish Cove. The analysis was peer reviewed by the City's consultant, Parametrix. The peer review concurred with the analysis that there was minimal effect on localized lake levels during peak storm events.

CONCLUSION: After review of the information, the SEPA Responsible Official determined no significant adverse environmental impacts will occur with this Project. Additional mitigation measures are not necessary. The issuance of this addendum is consistent with SEPA Rules WAC 197-11-600(4)(c) and procedures of WAC 197-11-625.

PROPONENT: City of Issaguah

LOCATION OF CURRENT PROPOSAL: City of Issaquah Right-of-Way, Intersection of 12th Avenue

NW & SR 900

LEAD AGENCY: City of Issaguah

RESPONSIBLE OFFICIAL: Minnie Dhaliwal, City of Issaquah, Community Planning &

Development Director

ADDRESS/PHONE: 130 East Sunset Way,

P O Box 1307,

Issaquah, WA 98027 (425) 837-3000

	Minnie Dhaliw	al	Digitally signed by Minnie Dhaliwal DN: GaUS, Earminnied@issaquahwa.gov, O∞City of Issaquah, OU—Community Planning and Development, CN—Minnie Dhaliwal Reason: I have reviewed this document Date: 2023.02.13 16:07:30-08000
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DATE: February 13, 2023	SIGNATURE:	
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Exhibit List

- 1. SEPA Checklist, dated November 1, 2011
- 2. SEPA Staff Evaluation, dated January 27, 2012
- 3. SEPA Mitigated Determination of Non-significance, dated March 14, 2012
- 4. Critical Area Report, dated May 21, 2021, revised April 15, 2022
- 5. Lake Level Analysis, dated April 6, 2022
- 6. Peer Review of Lake Level Analysis by Parametrix dated Aug 18, 2022